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KAIRA AND PANCH MAHÁLS.

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As far as possible the names of contributors are shown in the body of the book. Special acknowledgments are due, in Kaira to the Collector, Mr. G. F. Sheppard, C.S.; in the Panch Mahâls to the District Compiler, Mr. H. A. Acworth, C.S., and Mr. W. B. Prescott, Superintendent of Police; and both in Kaira and in the Panch Mahâls to Major W. P. LaTouche, Superintendent of Police, Mr. T. D. Little, Executive Engineer, Mr. N. B. Beyts, Superintendent of Survey, and Mr. Himatlál Dhirajrám, Overseer Public Works Department.

No District Compiler was appointed for Kaira. But Mr. Sheppard's advice, information, and corrections have, it is believed, ensured fullness and accuracy. In the Panch Mahâls, the contributions of the District Compiler, Mr. Acworth, were of the greatest value, supplying details for many subjects on which there was little or no available information.

Since the Maps were prepared the official spelling of a few names has been altered. The changes are in no case so great as to cause confusion.

JAMES M. CAMPBELL.

June, 1879.

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KAIRA.

Chapter I. Description.

ASPECT.

Except a small corner of hilly ground near its northern boundary, and in the south-east and south, where along the Mahi the surface is roughened and furrowed into deep ravines, the district of Kaira is one unbroken plain, sloping gently towards the south-west. Though almost all fit for cultivation, the land varies much in character. In the north and north-east, with patches of rich rice land, much lies open and untilled, covered in places with little but low brushwood. In the centre is the *charotar* or goodly land, a tract of most fertile and well tilled soil. The people, skilful cultivators and rich, live in large well built villages. Their fields, yielding the choicest crops, are sheltered by high hedges, and the whole country is clothed with rows and clusters of large shapely trees. Westwards this belt of rich vegetation passes into a bare though well cultivated tract of rice land. This towards the south grows barrener and more open, till as it nears the Gulf of Cambay, the fields are separated by unfruitful patches, whitened by a saline deposit.

RIVERS.

The district has two chief rivers, the Mahi for nearly 100 miles its boundary to the east and south, and on the north-west the Sábarmati, touching the district only for a few miles, but of great importance, as into it, along the channels of the Shedhi and Vátrak, the whole local drainage flows.

The Mahi.

The Mahi, with a course of from 300 to 350 miles, a drainage area estimated at from 15,000 to 17,000 square miles, and a discharge during maximum flood of about one and three-quarter million cubic feet per second, is, after the Narbada and the Tápti, the largest of Gujarát rivers. The main branch of the Mahi rises about 1850 feet above sea level in the Málwa state of Amjhera, in north latitude 22° 32′ and east longitude 75° 5′, almost due east of the town of Cambay, and distant from it in a straight line about 160 miles. The source of the river is in the Mehad lake, half way between the town of Amjhera and the village of Bhopávar, near the western extremity of the Vindhya mountains, where, taking a sharp bend almost at right angles to the line of their main range, they stretch northwards to meet the Arávali hills. For six or seven miles the stream flows westward, then bending round Bhopávar, it takes a northerly course, parallel with the line of the northern Vindhya hills. Sunk in a deep valley between banks in places more than 100 feet high, receiving as it passes, many tributaries from the east, but none of any size from the west, for 140 miles the Mahi flows to the north till the hills of Bágar suddenly turn its stream westward. After flowing twenty-five miles to the west the high mountains of Meywár bend its course to the south-west, and this direction nothing in the level Gujarát plain alters till the river falls into the Gulf of Cambay, in north latitude 22° 10′, and east longitude 72° 30′.

For the first part of its Gujarát course, the Mahi passes through the lands of the Mahi Kántha and Rewa Kántha chiefs. It then enters British territory, separating the district of Kaira on the right from the Panch Mahál and Baroda on the left. Further to the west and for the rest of its course, its right bank forms the southern boundary of the state of Cambay, and its left the northern limit of the district

of Broach. About 100 miles from its source, at Bungra, where it is crossed by the Baroda and Neemuch road, the bed is 400 yards wide, with a stream of 100 yards and a depth of one foot. Flowing between high alluvial banks much cut by ravines, the hundred miles of its Kaira course may be divided into three sections, a stretch of forty miles over a rough rocky bed, then about ten miles of sand the stream unaffected by the tides, and the last forty-five miles its course as a tidal river. At Verákhándi, the limit of the flow of the tidal wave, the bed is in the dry season 500 yards wide, the stream 120, and the average depth of water a foot and a half. About thirty miles nearer the sea, where not far from the village of Dehván, it has reached the eastern limit of the Broach district, the river is already an estuary, five miles broad with at springs a total tidal variation of about twenty-two feet. Below Dehván the estuary broadens but little, the distance across its mouth from Cambay to Kávi being estimated at about five miles.[1] Here the extreme tidal variations are not less than thirty feet. This added to the funnel-like shape of the head of the gulf, forces the tidal waters into a wave. At neap tides the water ebbs and flows with no marked disturbance. But at springs, especially at the night spring tide, about five miles below Cambay soon after the flood has set in, two waves rise on the shallows on either side of the channel, and swollen by the quickening tide and narrowing space stretch outwards till they meet in midchannel. At ten miles an hour, past sloping shallows in a crescent-like curve, and through steep banks in a straight six feet high wall-like line, the bore, crested and raging, rushes for twenty miles till it is broken and spent on the Dehván sands.[2]

Though during the rains it fills its broad bed from bank to bank with, where the sides are high, a depth of over forty feet, in the fair season, within the limits of the Kaira district, the Mahi can be crossed in many places. Of these the chief fords are at the mouth of the river between Cambay and Kávi, on account of the rush of water, always a dangerous crossing, though at the lowest tides it can be passed on foot. Thirteen miles above Cambay is the Dehván ford, available only at neap tides.[3] Five miles further at Gajna is another

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[1] Five miles is the Revenue Survey measure. Thornton gives three *kos*, or four and a half miles. Hové (1787) gives six *kos*, or nine miles.

[2] Ethersey's Cambay Survey 1837, J. R. Geog. Soc. 8, 196-202. The 'bore' is thus described by the author of the Periplus (about A.D. 160). 'Especially is there risk when the new moon falls in conjunction with the night tide, for then, when the sea is perfectly calm, you shall hear in a moment a rushing sound like the tumult of battle, and the water driving forward with the utmost impetuosity covers the whole of the bare shoals in an instant.'—Vincent's Periplus, II., 261.

[3] The following were (1827) the details of this crossing approached from the south. After descending the bank at Káreli for the first three miles, the road leads over a hard flat only covered at the highest tides. The principal stream is then crossed about a furlong wide, and at the highest of the neap tides not more than three feet deep. The road next passes over a broad, sandy, and somewhat muddy island ; and beyond the island, through a minor stream scarcely ankle deep, ascends the steep bank at the village of Dehván. In the fair season, except for six days before and after the new and full moon, when the overflow of the spring tides leaves it muddy, the river bed is hard, and any description of carriage can be taken across without trouble.—Bom. Gov. Sel., XL, 88.

Chapter I. Description. Rivers.

crossing serviceable except at the highest springs and free from any dangerous rush of tide. Ten miles beyond, at the Khánpur village, in the hot weather the river can be forded, and at other seasons carts pass easily on poles laid across two boats. Two miles beyond, close to the railway bridge, is the Ometa ford, the best of the Mahi crossings. The fierceness of the tidal wave makes the mouth of the Mahi dangerous for any but flat bottomed boats. And though it is said that, in former times, the village of Dehván was a port of some consequence, the channel is not at present deep enough to admit vessels of any size. The high rugged banks of the Mahi prevent its waters being used for irrigation, and so deep is its bed that it drains rather than feeds the springs near its banks.

The Mahi.

Four places on the Mahi, Mingrad, Fazilpur, Angad, and Yaspur, are held specially sacred by the Kolis, and visited by pilgrims on the 15th of Chaitra (April). The Kolis think of the Mahi as their mother. They swear by her, and though they have little fear in breaking their oath, they believe that if it is given him to drink a guilty person will fail to swallow the water of the Mahi. This happens more particularly if the water is given him at Vásna Kolna, where on the night of the Dasera festival (October), the Kolis used to meet and organize their predatory forays. Though like other streams it is considered sacred, fear would seem to be the prevailing feeling in the worship of the Mahi. The height of its banks and the fierceness of its floods, the deep gullies through which the traveller has to pass on his way to the river, and perhaps, above all, the bad name of the tribes on its northern bank, explain the proverb, 'When the Mahi is crossed, there is safety.'

The Sábarmati.

A detailed description of the Sábarmati, the fourth river in Gujarát, will be found in the Ahmedabad Statistical Account. During the fourteen miles of its course along the western limit of the Kaira district its waters are largely used for irrigation.

The Shedhi.

The chief drainage line of the plain between the Mahi and the Sábarmati is the river Shedhi. This stream, rising at the Damodi hill in the Mahi Kántha, enters the north-east corner of the Kaira district within two miles of the Mahi. Passing west through the Thásra sub-division it is joined from the right by the Suidak river, and further on near the centre of the district about eight miles north of Nadiád, it receives the Mohar from the north. Then flowing west, on the right just before entering the town of Kaira, it is joined by the Mul Khári. Beyond Kaira it meets the Vátrak from the north-west, and together they wind south-west into the Sábarmati. A narrow quick-flowing stream its banks steep, and in many parts its bed rather deep in mud, the Shedhi is at all times hard to cross. Sweet and good when it enters the district after meeting the Mohar its water is charged with soda, and being found hurtful to the crops, is little used for watering. Except for a mile or two above its meeting with the Vátrak during the hot season the bed of the Shedhi is dry. Its tributaries all join it from the right. The first is the Suidak in the Thásra sub-division, flowing with an unfailing stream from Hathvár in the Bálásinor territory. Next near the centre of the district,

comes the Mohar. This stream, rising in the Virpur sub-division of the Bálásinor territory, enters the Kaira district in the extreme north, and near the town of Kapadvanj, meeting the Varási from Bariar in the Mahi Kántha, flows south for about twenty miles. Here from the east it is joined by the Loni, and after passing five miles to the south-west, falls into the Shedhi. So impregnated with soda is the Mohar, that after it joins the Shedhi the waters of that river cannot be used for irrigation. The Mul Khári, the next of the Shedhi's tributaries, after draining the lowlying land between the town of Mahudha and the junction of the Mohar and Shedhi, falls into the main stream close to the east of Kaira. The Vátrak, with which the waters of the Shedhi unite at Kaira, rises near the town of Satuman in Meywár, and flows through the lands of the Mahi Kántha and the Paráutij sub-division of Ahmedabad. Five miles above Kaira it receives the Meshvo, a stream that a little to the west has throughout its whole course run almost parallel to the Vátrak. Then at Kaira, joining the Shedhi from the east with a winding course, they flow south falling into the Sábarmati at Vautha, a place of great sanctity. During its forty miles course through the Kaira district, the Vátrak, between alluvial banks about twenty feet high and with a shallow unfailing stream, flows over a bed of sand about 150 feet broad. By the help of lifts its water is much used in irrigation.

The Shedhi.

The Khári.

The Khári, rising in a cluster of hills about ten miles to the north-east of Ahmednagar in the Idar state, passes through a few villages in the extreme west of Kaira, and falls into the Sábarmati to the north-west of the village of Radu, a little above the meeting of the Sábarmati and Vátrak. The land here is very flat, and during the rains is subject to flooding. Here, for more than a century, rice fields have been watered by banks thrown across the river. At first the embankments were of earth and wanted constant repair. And it is only since 1850 that at a total cost of £6600 (Rs. 66,000) permanent masonry dams with sluice gates have been built. These, seventeen in number, command an area of 11,000 acres in eleven villages. Formerly the right to the Khári water was among the villagers on its banks the source of constant quarrels. But in 1843 and again in 1874, the rights have been settled and the water more fairly distributed. The Khári stream generally fails at the end of the rice season (November). The water could be brought from the Háthmati river by the Háthmati canal and along the Bujva, a tributary of the Khári. But much of the land that would gain by this increased supply is alienated, and at present there is no way of recovering a watercess from the lands of the alienees.[1]

Drainage.

Though its average yearly rainfall is not more than thirty inches, the district of Kaira has, since the earliest years of English management, been liable to suffer from floods. This has specially been the case in two lowlying tracts. In the west where, between the Shedhi

[1] Between 1869 and 1874 the irrigated area of Government land increased from 3694 to 4737 acres and the land revenue from £2900 to £3447 (Rs. 29,000—34,470).—Irrigation Revenue Report, 1876-77, 18-24.

Chapter I. Description. Drainage.

and the Sábarmati, Mátar stretches an almost level plain, and in the south-west and south where the southern lands of Nadiád, Petlád, and the north of Borsad are at times swamped by the flood waters from the raised tract along the right bank of the Mahi.[1] Though with no marked courses the flood waters of the Kaira lowlands set along three chief lines, west into the Vátrak, south-west into the Alang canal,[2] and south by the Chor ravine into the Mahi. The floods that drain westwards, gathering head in Dumrál, Keriávi, and A'khdol in southern Nadiád, through Petlád and Mátar pass westwards into the Vátrak about two miles above its meeting with the Sábarmati. Of the waters that make their way to the Alang canal, two of small size pass through the southern villages of Mátar, entering the canal about ten or twelve miles to the north-west of Cambay. The third, a much larger body of water collecting in the southern villages of the Thásra sub-division flows past Umreth, and then westwards to Chaklási about six miles south-east of Nadiád. From Chaklási, setting more to the south, it floods the lowlying lands of Bákrol and Karamsad, and crossing Petlád and Cambay, after a course of more than forty miles, spreads over the Ránpur flats and makes its way into the Alang canal about three and half miles to the north of Cambay. The flood waters that find their way into the Chor ravine set along three chief lines, one from Sandesar, about eight miles south-west of A'nand; a second from Mogri, about four miles east of Sandesar; and a third from Sársa, about eight miles east of Mogri. The Sandesar water, making head in the lowlying lands of that village, flows south-west for about eighteen miles, entering the Chor ravine at Karamsal, about two miles from its mouth. The second, though called after the village of Mogri, makes head at Chikhodra about six miles further east, and keeping to the north of Borsad, passes south-west, falling into the Chor ravine at Kándhreti about three miles above Karamsal; the Sársa water, passing through A'rás and to the south of Borsad, joins the Mogri flood at Uneli, about six miles above Kándhreti.

During the period of heavy rainfall between 1814 and 1822 floods and standing water caused much damage.[3] Flood remissions and sums for cutting or clearing drains were from time to time granted. But chiefly from the interlacing of Cambay and Baroda villages and the difficulty of getting their managers to work in concert, no systematic attempt would seem to have been made to improve the drainage before the early survey of the district between 1820 and 1827. Captain Cruikshank, in his Nápád report (1826), describes

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1 A drainage map is given at the end of this chapter.

2 This canal, about twenty-five miles long, was cut to bring the water of the Sábarmati to the Náráyansar lake at Cambay. This lake is now (1876) dry.

3 In 1819 several villages were entirely under water, one of them, the Gáikwár village of Vaso, yielding a yearly revenue of £4000 (Rs. 40,000). Captain Robertson, the Collector, had a drain dug to the Vátrak river. He suggested that an officer should be sent to survey the chief natural drainage lines, and complained of the great difficulty he found in getting the Gáikwár and Cambay courts to agree to any scheme for the common good.—Bom. Gov. Rev. Rec., 149 of 1820, 491. In western Borsad, in 1824, drains were said to be wanted to carry off the water that lodged and destroyed the land.—Bom. Gov. Sel., XI., 92.

the general drainage of the district. In that part of the country serious loss from floods would seem to have been only occasional, and Captain Cruikshank did not advise the undertaking of any large drainage scheme. He thought that enough would be done if, in times of flood, care was taken to cut temporary channels from village to village, and to see that the passage of the flood waters was in no way checked or turned aside.[1] In Mátar, Captain Cruikshank would seem to have found the evils resulting from flooding more pressing.[2] With the help of the headmen of several villages he prepared a scheme for the drainage of most of its chief villages. According to his estimates, at a total cost of £980 (Rs. 9800), of which £320 (Rs. 3200) would be met by the villagers, land capable of yielding a yearly revenue of £1131 (Rs. 11,310) might be saved. These proposals were approved by Government in 1828. But on account of the inability of the people of several villages to pay their contributions, and the objections raised by the Baroda and Cambay authorities to let drains pass through their lands, nothing was done till in 1830 (October 15) Sir John Malcolm took the matter in hand, strongly supporting Captain Cruikshank's scheme on the ground, not only of the increase of revenue, but because of the gain to public health and the protection to cattle likely to ensue.[3] In 1831, a survey was carried out by Mr. Jordan. This showed that for an outlay by Government of £1212 (Rs. 12,120) 2528 acres (4304 *bighás*) of land might be saved from flooding. Government approved Mr. Jordan's proposals, and ordered his scheme to be carried out without delay.[4] The work was earnestly taken up, and during eleven years, continued to be vigorously pushed on. At the end of that time (1842), fourteen sets of drains had been completed, at a cost of about £4000 (Rs. 40,000). Of the fourteen works, one was in the north between Mehmadabad and Mahudha; eight were in the west, draining into the Vátrak; four were in the south-west, draining into the Alang canal; and one in the south, draining into the Chor ravine. The northern work, in two parts, one protecting the villages of Rudan and Karoli, the other those of Bhumas and Khutaj, was finished in 1837, at a cost of £296 (Rs. 2960). Of the eight western works, one

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1 After Captain Cruikshank's survey came several seasons of unusually heavy rainfall. In 1829 the villages of Karamsad and Bákrol were most seriously flooded, and owing to a bank raised by the villagers of Valáson to the west, the flood waters could not pass off. So much harm was done that from Karamsad and Bákrol, a company 500 strong went out to clear off the dam. Valáson resisted, and the struggle lasted for three days, with a loss of from twelve to fifteen men. Again, between 1835 and 1838 much damage was done. In Sandesar near Karamsad, for four successive years the rice crops were totally destroyed; and in one of those years a great part of the village of Karamsad was swept away, with a loss estimated at £10,000 (Rs. 1,00,000.)—Kaira Executive Engineer's drainage report, 234, 22nd October 1866.

2 Captain Cruikshank's report, prepared in 1827, has not been traced. Mr. Jordan refers to it in his letter to the Sub-Collector of Kaira, dated the 3rd March 1831. The figures are taken from Sir John Malcolm's Minute, dated October 15th, 1830.

3 Bom. Gov. Rev. Rec., 319 of 1830, 242.

4 The estimate was about £200 (Rs. 2000) higher than Captain Cruikshank's. The difference was due to the failure of certain villages to pay their contributions and to a rise in the rates of earthwork.—Gov., 1538, 28th April 1831.

Chapter I. Description. Drainage.

carried the flood waters of Radhvánaj into the Vátrak about two miles below Kaira. The remaining seven united in draining western Nadiád and central Mátar into the Vátrak, about twelve miles below Kaira. Of these, one finished in 1832 (March 8th) at a cost of £118 (Rs. 1180), relieved Undhela and Mátar; the second finished in 1833 (January 31st) at a cost of £128 (Rs. 1280), relieved Heranj, Máchhial, and Tráj; the third finished in 1833 (January 31st) at a cost of £193 (Rs. 1930), drained the western villages of Khándli, Kathoda, Tránja, Marála, and Punáj; the fourth finished in 1841 (June 15th) at a cost of £699 (Rs. 6990), drained the Petlád villages of Pij and Vaso, and the Mátar villages of Maliátaj and Laval; the fifth finished in 1842 (April 14th) at a cost of £70 (Rs. 700), drained Bámnoli, Dantáli, and Davra; the sixth finished in 1842 (March and April) at a cost of £56 (Rs. 560), drained Dumrál, Pipleta, and Keriávi; and the seventh finished in 1842 (April 30th) at a cost of £36 (Rs. 360), drained Mitrál and A'khdol.

Of the three that protected the south-west, one finished in 1837 (June 12th) at a cost of £222 (Rs. 2220), brought the flood waters of the south Mátar villages of Moraj and Chikhlia into the Alang canal, about twelve miles north-west of Cambay. The other two forming together the great Karamsad drain, entered the Alang canal, about three and a half miles from Cambay. The chief of these two works finished in 1838 (November 18th) at a cost of £1092 (Rs. 10,920), starting from the village of Karamsad, four miles west of A'nand, passed through Pálaj, A'mod, Nár, and Bhanderaj, a distance of about twenty miles. The other work, a feeder to this great drain, finished in 1839 (June 15th) at a cost of £253 (Rs. 2530), relieved the villages of Narsanda, Vadtál, Ráhávli, and Bándhni. The southern line was the Mogri drain, finished in 1840 (May 30th) at a cost of £81 (Rs. 810). This passing through Náhápa, Santokpura, Bochásan, Uneli, Sahijpur, and Vásna, entered the Chor ravine at Karamsal. Two villages, Boriávi about five miles north of A'nand, and Sangesar about two miles south of Karamsad, were left unprotected. Plans were prepared for draining Boriávi south to Bákrol, and Sangesar south to Karamsal, in the Chor ravine. But in both cases the Baroda and Cambay authorities, through some of whose villages the flood waters would have to pass, raised objections and the question of making those drains was laid aside. In reviewing, in 1843, the results of this drainage system, the Collector, Mr. Kirkland, showed that while the whole cost of the works was £4000 (Rs. 40,000), during the five years ending with 1841 about one-half of this amount had been saved by making remissions of land revenue unnecessary. Besides this saving to Government, there was the great gain to villagers, and a marked improvement in the public health. Government agreed that the result was satisfactory.[1] They thanked Mr. Kirkland for the interest he had shown in planning and supervising the works, and Messrs. Jordan and Spry for their

1 Collector, 2612, August 10th, 1843.

valuable services in constructing them. So great relief did these canals bring, that in 1842 several smaller cuts, already surveyed and sanctioned, were found to be unnecessary. The rejected lines were, in the east, three feeders to the Karamsad grand drain from Chaklási to the north, Chikhodra to the east, and A'nand to the south of Karamsad, and along this same drain about half way to the Alang canal at the village Silvái, a branch from the right bringing the flood waters of Balitva, Changa, Melav, and Pipla. In the south a cut from Pandoli, Khadma, and Sháhpur, in Borsad, to fall into the Mahi to the west of Cambay. In the west, in southern Mátar, a cut passing through Bantva, Pariaj, and Bamangám, into the Alang canal. The arrangements for relieving Karamsal and Bákrol failed. The original canal was about eight feet above the proper level, and the second drain, by way of Jol, through raised sandy ground, was very soon so filled with drift, that only in the very highest floods was the water able to pass off. With this exception all the lines worked well. For several years little care was taken of the drains, and nothing was done in the way of repairs. And after about fourteen years, partly from their bad state of repair and partly from two or three seasons of unusually heavy rainfall, complaints of loss from flooding again became common.[1] Accordingly, in 1858, Mr. Spry, to whom along with Mr. Jordan the success of the works finished between 1831 and 1842 was due, was deputed to 'survey and determine the different lines of drainage.' Though Mr. Spry's report was useful as showing the position of the lands liable to flooding, and the lines of natural drainage, it contained no details or estimates of works. In 1862 Colonel Prescott, in his survey report on Mátar, renewed complaints of the damage done by the bad state of the drains, and suggested that the whole subject should be inquired into, and the canals made use of for irrigation.[2] For several years no officer was available for special drainage duty, and it was not till the close of 1865 that the work was again taken up. Between November of that year, and August of 1866, Lieutenant Baldwin surveyed the greater part of the Kaira low lands. His main drainage lines differed but little from those laid down by Mr. Jordan. He proposed to extend the feeders of the chief west line to Barián and Piplaj, south of Nadiád. Of the south-western line, he would continue that through Pariaj and Bamangám across the Petlád lands to Dehmol, six miles from Vadtál. He would cut an additional channel crossing from Pariaj in south Mátar to Sojitra, six miles north-west of Petlád. The Karamsal line he did not propose to change. But he added the cut from Pandoli and

[1] In 1856 the Collector complained that near Nadiád, to get to their fields, cultivators had, with their ploughs on their heads, to wade through mud and water higher than a man's breast. From other villages reports came that women were drowned, and that the streets were dangerous from alligators crawling about.—Collector 158, 11th April 1854.

[2] In 1862 Colonel Prescott wrote, 'the Mátar drains carried out between 1831 and 1840, made the district healthier, raised the revenue, made remissions less necessary, and helped the cultivators to accumulate wealth.' Again he says 'the Mátar people are unanimous in dating the time from which the district began to grow prosperous from its drainage by Mr. Jordan.'—Bom. Gov. Sel., New Series, CXIV., 416, 421.

Chapter I. Description. Drainage.

Danteli into the Alang canal, about a mile north-west of Cambay, formerly surveyed, but rejected as unnecessary. His southern or Chor ravine drainage lines are the Sandesar, the Mogri, and the Sársa, the same as Mr. Jordan's. For the three lines passing through the Mátar sub-division, Mr. Baldwin was unable to prepare projects. Like Mr. Jordan, he thought the villages along the Sársa branch of the Mogri drain wanted no special protection. For the improvement of the three remaining lines, he proposed for Karamsad, a canal about twenty-eight miles long with a drainage area of about 141 miles, and an estimated cost of £7855 (Rs. 78,550); for Sandesar, a canal about seventeen miles long with a drainage area of about fifty-four miles, and an estimated cost of £9237 (Rs. 92,370); and for Mogri, a canal about twenty miles long with a drainage area of about 150 miles, and an estimated cost of £7056 (Rs. 70,560). The four years before Mr. Baldwin's survey had been seasons of very evenly distributed rainfall. Little loss had been caused by floods, and the people showed small interest in the proposed drainage. After his survey was completed in August 1866, the district was visited by a very heavy flood. Mr. Baldwin took advantage of the opportunity to test the accuracy of his measurements. Of the effect of this storm he has left the following details:—In twenty-four hours (August 3, 1866) from 4·50 to 5·50 inches of rain fell. At Chíkhodra, about two and a half miles east of A'nand, where the Mogri and Chor water first makes head, the flood was about four feet higher than was good for the land, and was destroying some hundred acres of rice. A'nand, though in the middle of a lake, was unhurt; only waste lands were covered. Mogri looked flooded, but the people said the water was not too high. Instead of draining into the Mogri cutting, a strong head of water was setting west for Karamsad. In Karamsad though the flood was doing great harm, it was, the people said, only eighteen inches too high. A little of the flood was passing north to Bákrol, but just as much was rolling in from A'nand. At Sandesar the water stood four and a half feet too deep; and at Bákrol great damage was done. Jol was safe, the flood running off along the old cut.

In forwarding his projects to Government, Mr. Baldwin complained that he found the old drains greatly in want of looking after. Hedges were planted across them in some places, and in others, to water a field, the channel had been blocked up. Compared with the former drains, Mr. Baldwin trusted that his canals would prove to have more even slopes, and fewer windings. Again, he thought it a great advance that instead of carrying them through he had cut his drains along the feeding sides of ponds and reservoirs. The proposal to make the drainage canals into irrigation channels was not approved. But, except the sluices and bridges, the Mogri scheme was sanctioned, and a sum of £4278 (Rs. 42,780) spent in cutting the canal. The drain has worked well. But since its construction no attempt has been made to carry out either the Karamsad or Singsi projects. It has, on the whole, been a time of rather short rainfall with no great damage from floods. The district officers, while admitting that the Mogri drain has done all that it was expected

to do, doubt if the advantage gained is worth the sum spent.[1] In Borsad, in Colonel Prescott's opinion (1867), the damage by floods was so slight, and the loss to the early crops was so generally followed by a better late harvest, that this liability formed no ground for reducing the survey rates. Again in 1868 Mr. Elliot the Collector wrote that both because they were unnecessary and on account of the large quantity of land they would occupy, the other schemes should not, in his opinion, be carried out.[2] Mr. Little the Executive Engineer agreed with this view, doubting if the good done by such canals is equal to the cost of cutting them. On these grounds, while ordering that care should be taken to keep all the channels clear and in order, Government have decided that for the present the other projects should not be carried out.[3]

Floods.

Besides the smaller floods mentioned under the head of drainage, three specially severe storms visited Kaira, one in 1837, a second in 1868, and a third in 1871. In 1837 after two days (the 28th and 29th August) of average rainfall, on the evening of the 30th, a storm burst with heavy thunder and wind. The flood continued to rise till nine in the evening of the 31st. The waters kept at their extreme height for about an hour and then slowly fell. Near the town of Kaira, the Shedhi and Vátrak uniting, rose till they covered the whole country for miles. From the 31st August to the 2nd September, between the Collector's house and the town, a stream ran too deep to be crossed. At this time the water stood waist high on the steps of the rest-house near the library, and flowed over the Ratanpur bridge. It rose to four of the town gates, the Lál, the Ahmedabad, the Pura, and the Bálápir, leaving at Bálápir gate only four feet of the arch open, and flooding about thirty-five houses inside. Opposite this gate, and at a small distance on the further bank of a water-course, stands the hamlet of Lakhmipura. In this village of 125 houses, only thirty were left standing. Of the people, one hundred were saved in a boat, and the rest by climbing from tree to tree. This flood is said to have been due to a very unusual rise in the rivers above the Kaira district rather than to the excess of the local rainfall. In the whole district the lands of eighty-six villages were flooded, twenty-one in Nadiád, twenty-one in Mátar, fifteen in Mahudha, ten in Borsad, eight in Thásra, and five in Kapadvanj. No lives were lost. But besides huts, 409 houses in the town of Kaira were destroyed.[4] The lately completed drains were most useful in relieving the district of the flood waters. In Mátar they prevented immense loss, both in houses and lands, and in Mahudha were of eminent service.[5]

Between the 9th and 13th August 1868, with much wind, 22·4 inches of rain fell.[6] On the 12th, the Vátrak rose rapidly; and in the morning of the 13th, both the Vátrak and the Shedhi overflowed

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[1] In the great flood of August 9, 1868, the Mogri canal did great service, very rapidly relieving the lands near Borsad of their flood waters.—Collector, 875, September 11, 1868.

[2] Collector, 1156, November 28, 1868.

[3] Gov. Res. 253, January 29, 1869.

[4] Collector's weather report, 2nd Septr. 1837.

[5] Collector 201, October 15th, 1837.

[6] Collector 816, August 24, 1868, and Gov. Res. 1664, September 7, 1868.

Chapter I. Description. Floods.

their banks. Near Kaira, except the town, the Collector's house and the camp, the country was flooded for miles. On the walls of the library in the low land south of the town, the water stood five feet two inches deep. In the town one child, a Pársi, was drowned, and 395 houses, nine of the first, seventy-two of the second, and 314 of the third class, were destroyed. In the rest of the district the lives of three human beings and of thirteen cattle were lost; and 1960 houses, 104 two-storied, 736 one-storied, and 1220 huts destroyed. Railway traffic was stopped for more than a fortnight. But the public works suffered but slightly. As far as an estimate could be framed, the total amount of damage done was calculated at £13,858 (Rs. 1,38,580). To help the destitute, Government sanctioned the expenditure of £1000 (Rs. 10,000), and a further advance of £1000 (Rs. 10,000) was made to the Kaira municipalities. An additional sum of £511 (Rs. 5110) was raised in Bombay and forwarded to the Collector of Kaira. But the people were unwilling to take charity, and the money was spent in improving ponds and wells. Of five of the villages that suffered most, the sites were changed. Land revenue to the amount of £752 (Rs. 7520) was remitted, free grants of limestone, of clay for bricks, and in some cases of wood were made, and at a total cost of £29,672 (Rs. 2,96,720)[1] relief works were kept open from the beginning of August to the end of May.

On the 2nd August 1871, a storm broke over the district with a fierce south-west wind and rain, varying in twenty-four hours from 3·50 inches in Thásra to 11·41 inches in Mátar, and averaging 7·72 inches over the whole district.[2] Round the town of Kaira the country was flooded for miles. The water hid even the highest hedges, and at the town of Kaira stood from sixteen to eighteen inches higher than in 1868. The 3rd and 4th August were rough, wet days, followed on the 5th by a severe gale, and heavy rain from the south-west. The flood was felt most severely in the Mehmadabad and Mátar villages. For four days (2nd to 5th August) at Kaira the Collector's office was cut off from the town and the road between Mehmadabad and Kaira was impassable. A railway bridge was washed away and some telegraph wires destroyed; otherwise the damage to the public works of the district was small. Except the camp road, the Executive Engineer estimated that all loss might be covered by adding £250 (Rs. 2500) to the repair estimates. Though in several villages the whole population lived for nearly two days and nights in trees, only five persons and 799 cattle were drowned and 4934 houses, 276 of them in the town of Kaira, destroyed. The loss of property was calculated at £25,031 (Rs. 2,50,310). The distress, considerable in some villages, was almost entirely relieved by private charity. The Kaira grain fund committee, without giving general and ill-judged alms, brought most liberal help, distributing from £70 to £80 (Rs. 700-800) worth of grain. Cases of distress, unsuited for private relief, were

[1] The details are, Government, Rs. 70,356; villagers (in cash and labour), Rs. 10,906, and Local Funds, Rs. 2 15,458.

[2] The details are, Thásra, 3·50; A'nand, 9·75; Nadiád, 8·11; Borsad, 7; Mehmadabad, 6·4; Kapadvanj, 6·85; Mátar, 11·41; and Kaira, 8·76.

met by Government advances, amounting altogether to a sum of £500 (Rs. 5000).[1]

Lakes.

The district contains no natural lakes, but according to the statistics of 1871-72, is supplied with 4079 ponds or reservoirs, covering a total area of 14,553 acres, or on an average of four acres to each reservoir. Of the total number, two only, the Gomti lake at Dákor and the village reservoir of Belára in the Mátar sub-division, are of any great size. As most of them are dry or very low in the hot season, they are of little use for perennial crops; but in October and November, after the rains are over, they are very serviceable for watering rice. Except in parts of the Kapadvanj and Thásra sub-divisions, where the land is impregnated with soda, the district is well supplied with wells, ponds, and rivers of sweet water. Besides the ponds mentioned above, 545 water-lifts or *dhekuris*, and the unbuilt wells in alluvial lands, there were 227 wells with, and 10,076 wells without steps.

Geology.

Geologically the Kaira plain is, with the exception of the few sandy hills and rocks in Kapadvanj and Thásra, a deep bed of flint and lime alluvium, most of it the dèbris of the felspathic and limestone rocks of the Arávali hills. In the raised tract, along the banks of the Mahi, water is found only at a depth of from eighty to 110 feet. Away from the river, wells have their springs from forty to sixty feet deep, rising through strata of earth mixed with limestone nodules, alternating with sand overlying sheet limestone. From this limestone, when tapped, water rises to within twenty-five feet of the surface. Formerly, in parts of the district, water was to be found higher even than this. Many old wells are said to have been made useless by the earthquake of 1819, which lowered all the springs from five to ten cubits.[2] In some cases deeper sinking has overcome the evil, in others, a fine stratum of quicksand makes further cutting dangerous. The hot springs of Lasundra, ten miles south-east of Kapadvanj, rise to the surface in ten or twelve cisterns, the hottest standing at a temperature of 115°. Like those at Tua in Godhra, twenty miles to the south-east, and at Anával, 150 miles south, the Lasundra springs are slightly sulphureous, and thought to be useful in skin diseases.

Climate.

To Europeans, though with some constitutions it agrees well, the climate is trying. From November to March the air is pleasant and bracing. But even this long share of cool weather fails to make up for the severe heat of the rest of the year, dry and parching in March, April, and May; moist and oppressive from June to October. To the people of the country, except in the eastern sub-divisions of Kapadvanj and Thásra, and on the north-west, in the marshy rice-bearing lands near the Khári river, the climate is not hurtful; and the central tract, known as the *charotar*, is considered healthy. During a long term of years the district has on the whole been free

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[1] Collector 990, August 18, 1871.

[2] This change in the water level is perhaps sufficiently explained by the dry years 1822, 1823, and 1824, which would seem to have brought the district back to the state it was in, before the soaking or *beja* of the heavy rainy seasons 1814 to 1822.—Bom. Gov. Sel., X., 5.

Chapter I. Description. Climate.

from outbreaks of cholera or other epidemics.[1] Malarious fever, the prevailing disease, is commonest and most severe in the month of October. During the cold season, as the air becomes dryer, sickness gradually grows less, and in the hot weather months public health is at its best. From March to October the general direction of the wind is from the south-west, and from November to February from the north-east. From 1852 to 1861, the average rainfall was 33·78 inches; from 1862 to 1871, the corresponding returns give 27·45 inches; and from 1872 to 1877, 28·10 inches.[2] Except an occasional shower in the cold season, the whole rain supply falls between June and October. Thermometrical readings registered during the ten years ending with 1861 vary from 104·1 in May to 54·6 in January. They give for the whole period an average mean temperature of 79·6.[3]

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[1] In 1876, Nadiád suffered from a severe attack of cholera.

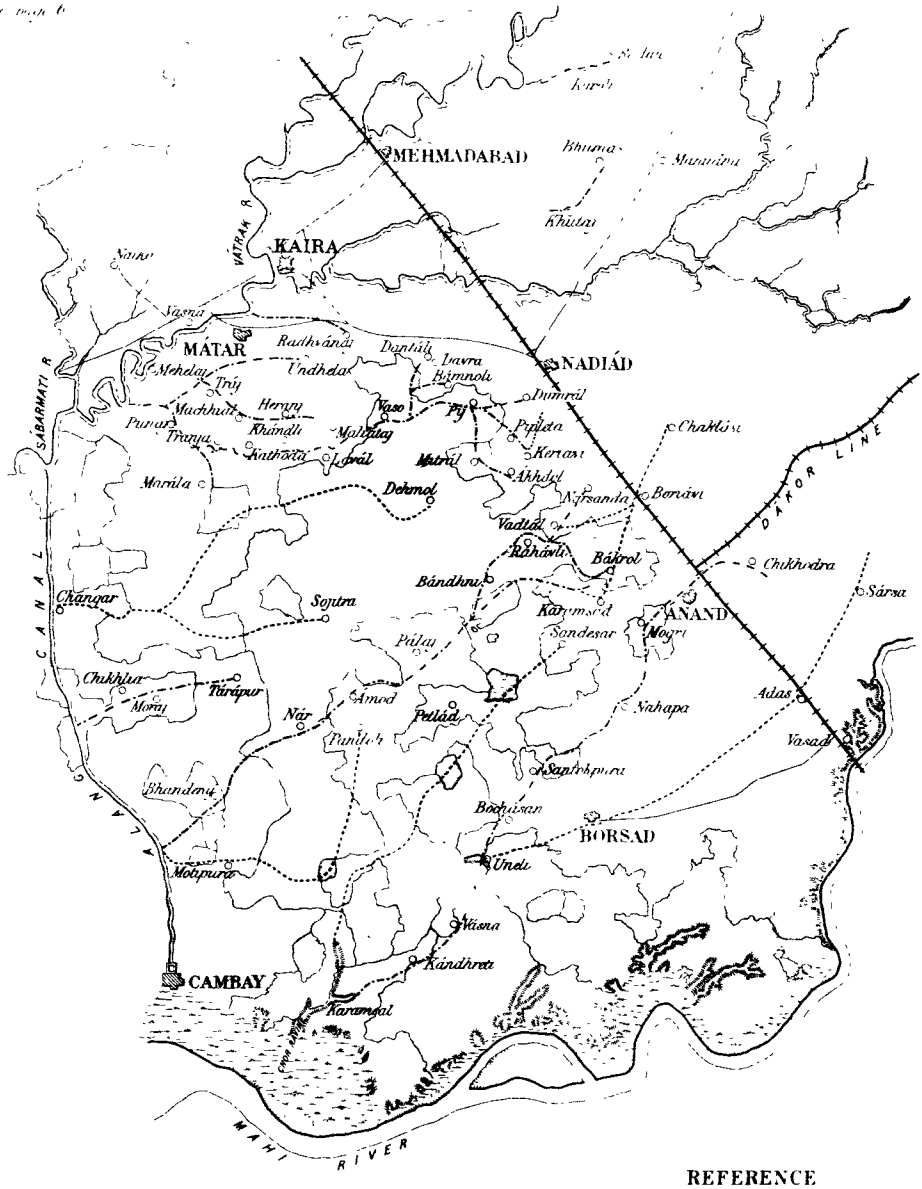
[2] Sanitary Commissioner's report of 1873, 45, 46. The 1872-1877 returns show the average fall over the whole district. The available details for the town of Kaira are :—

Rainfall at Kaira, 1858-77.

Year.	Inches.	Cents.	Year.	Inches.	Cents.	Year.	Inches.	Cent
1858 ...	22	28	1865 ...	24	36	1872 ...	58	83
1859 ...	34	28	1866 ...	27	32	1873 ...	22	86
1860 ...	31	6	1867 ...	20	09	1874 ...	23	22
1861 ...	28	52	1868 ...	38	91	1875 ...	35	92
1862 ...	33	12	1869 ...	33	38	1876 ...	30	38
1863 ...	28	03	1870 ...	38	69	1877 ...	26	44
1864 ...	15	69	1871 ...	33	44			

[3] Average thermometrical readings, Kaira, 1852-1862 :—

	January.	May.	September.	December.
Mean	69·9 ...	92·9 ...	84·7 ...	71·1
Maximum	85·2 ...	104·1 ...	93·5 ...	84·8
Minimum	54·6 ...	81·8 ...	75·9 ...	57·4
Range	30·6 ...	22·3 ...	17·6 ...	27·4



DRAINAGE MAP

Scale of Miles

5 0 5 10 15

REFERENCE

B B & C I Railway
Made Roads
British Territory, uncolored
Baroda _Do_ colored Blue
Cambay _Do_ _Do_ Red
Drains already carried out
Other important natural drainage lines

Gov't Photozincographic Office Poona 1879

CHAPTER II.

PRODUCTION.

MINERALS.

SOME large heaps of iron slag show that at one time iron ore was worked in the neighbourhood of Kapadvanj. With this exception the district is without minerals. In the bed of the Májam river, about fifteen miles from Kapadvanj, are found some varieties of agate and moss pebbles. These known as *kháriyu*, *ágiya*, and *rátaliu*, are, when polished, among the most valued of Cambay stones. At Kapadvanj the business of collecting them is almost entirely in the hands of merchants of the class of Shia Bohorás. Labourers are employed by them to search the bed of the stream and quarry its banks. The best season for finding the stones is at the close of the rains, when numbers are washed out of the mud and gravel of the banks and bed. When a supply of stones has been collected they are baked. And those that stand the fire, and develope bright colours, are sent to Cambay to be polished.[1] In the bed of the river Mahi are masses and boulders of trap, and in the east, near where it enters the district, rock is plentiful, including trap with occasional limestone, quartz, and granite. Though not suited for building purposes this rock is used for road metal. Limestone, *kankar*, in small nodules is found in and near most of the Kaira rivers. Its quality varies, but it usually contains from fifty to seventy-five per cent of carbonate of lime besides sand and sometimes clay and magnesia. Sand used for making mortar is found in the rivers Mahi, Vátrak, and Meshvo, and in the smaller water-courses. In low broken ground near Kapadvanj, Lasundra, Torna, and other villages in the north-east of the district, a white crust of impure carbonate of soda forms on the surface of the ground. This earth is collected and much used in making glass and soap and as a mordant in dyeing cloth.[2]

TREES.

Kaira is generally spoken of as one of the best wooded parts of the Bombay Presidency. This in one sense is true. At the same time the district has no forests or forest land,[3] the trees either standing singly or in small groves. Especially in the southern

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[1] Mr. Forbes (Or. Mem. III., 68) makes Kapadvanj the site of Ptolemy's (150) mountain of agates. But it seems more likely that Ptolemy heard of the mine on the Rájpipla hills, since known as *Bára Ghor*. Details of the mining and manufacture of Cambay stones are given in the Cambay statistical account.

[2] Contributed by T. D. Little, Esq., C.E., District Executive Engineer.

[3] In the Borsad sub-division, during the rains of 1867, 1256 acres of land were sown with *bábul*, Acacia Arabica. The seed germinated, but after growing a few inches high the plants withered.—Forest Report, 1867-68.

Chapter II. Production.

TREES.

parts the timber is found in the hedge rows with here and there in the fields a well grown solitary tree. In the north, the *mahuda*, Bassia latifolia, and in the south, the mango and the *limbdo*, Melia azadirachta, are the commonest varieties. All over the district the custard-apple, *shitáphal*, Anona squamosa, is abundant, in some places bearing good fruit, though apparently growing wild. Besides these, the *ráyan*, Mimusops indica, the *kanaj*, Ulmus integrifolia, the *karanj* or *kaniji*, Pongamia glabra, and the *aduso*, Ailanthus excelsa, are freely distributed over almost the whole of the district. The fruit of the mango is in considerable quantities sent to Baroda, Ahmedabad, and Káthiáwár. During the hot season the fleshy corolla of the *mahuda* flower is eaten by the poor and by cattle, and from it is distilled a favourite native liquor. Mixed with whey the berries of the *ráyan*, Mimusops indica, form during the hot season the staple food of a large section of the Koli population.

ANIMALS.

Domestic.

The chief domestic animals of the district are oxen, cows, buffaloes, sheep and goats, horses, camels, and asses. Of oxen, the 1876-77 returns show a total of 128,247 head. A few of the finest, worth from £15 to £30 (Rs. 150-300) the pair, owned by well-to-do Kanbi cultivators, are brought from Káthiáwár and Kánkrej in northern Gujarát. But some of the largest are bred in the district, Bhálaj and other villages of the Nadiád sub-division being famous for their bullocks. The poorer cultivators have smaller, leaner, and less valuable cattle, worth from £3 to £10 (Rs. 30-100) a pair. But except in Thásra and Kapadvanj, where they are small and in poor condition, the Kaira cattle are on the whole large and fine animals. Among cultivators the common practice is to buy and rear calves. Besides a full supply of grass and millet stalks, the rich man's bullocks have every day a pound or two of bruised oil seeds, and from four to six pounds of pulse.[1] Except in the busy season (June-November), when they have a pound or two of oil seed and grain, millet stalks are the only fodder of the poor man's cattle, and sometimes they are turned out on the village grazing ground to shift for themselves. Of male buffaloes, the 1876-77 returns show a total of 10,315 head. Most male calves are kept from the mother's milk and allowed to die. Of cows the total is returned at 49,264 and of she-buffaloes at 180,223. Well-to-do cultivators own from three to ten milch cows and buffaloes. A cow varies in value from £2 to £5 (Rs. 20-50) and a she-buffalo from £3 to £8 (Rs. 30-80). These animals are, except in the rainy season (July-October), almost all stall fed. Their fodder is grass and millet stalks with, when in milk, every day a pound or two of oil seed cake and cotton seed, *kapásia*. The townsman generally keeps only one cow or buffalo and uses all its milk in his own family. The cultivator makes most of the milk into clarified butter, sending weekly supplies to market.[2] Professional herdsmen, or Rabáris, as well as

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[1] Generally *adad*, Phaseolus mungo, or *guvár*, Cyamopsis psoralioides.

[2] Clarified butter is one of the most valuable of Kaira exports. Some account of the trade is given below.

cultivators, rear milch cattle both cows and she-buffaloes. Though the Rabáris are not a wandering tribe, their cattle are not stall fed. They are supposed to graze them on the common pasture ground. But finding scanty fodder there the Rabáris have little scruple in letting their animals stray into any unguarded field. Bráhmans and Vániás generally make over their young calves to Kanbis and Kolis to be reared. On handing it over the calf is valued, and the common agreement is that when the calf is full grown and again valued the owner pays the man who reared it one-half of the increased price. Milch buffaloes are sent from the district by rail in considerable numbers, chiefly to Surat and Bombay.

Sheep and goats, with a total strength of 53,880 head, are reared chiefly by professional herdsmen, Rabáris and Bharváds. They are found in greatest numbers in the less highly cultivated districts of Mátar in the west, and Thásra and Kapadvanj in the east. Sheep are bred for their milk, wool, and flesh. Goats for their milk and their flesh. The wool is generally cut twice a year, in November and March. The Rabáris cut it themselves with a specially heavy pair of shearing scissors. The wool has little care given to it, and is usually very indifferently washed. Except what little they make into felt and weave into coarse blankets, the Rabáris sell their wool to traders, chiefly Musalmáns, who export it to Bombay. The trade seems to be of growing importance, as the total sent by rail has risen from twenty-two tons in 1870 to forty-seven in 1877. The sheep's rutting season is in May. She carries for six months. A sheep is milked from November to June, and generally yields from one to two pounds a day. Of this the young are allowed to suck half and the rest is used to make butter. The milk of twenty sheep would in four days yield about five pounds of butter worth about 3*s.* 3*d.* (Rs. 1-10). Sheep begin to bear when three years old and continue till they are about seven. A good ewe is worth 8*s.* (Rs. 4). A large number of sheep and goats are every year sent by rail to the Bombay market.

Horses are returned at 2366, but by far the greater number of them are mere ponies, unsuited for the purposes of cavalry. In value they vary from £2 to £10 (Rs. 20-100). Most of them are born and reared in the district. Some of the best come from Cutch and Káthiáwár, and a few show signs of being the produce of the Ahmedabad stud horses. As a rule they are not well taken care of. Many are allowed to feed themselves as they best can, others have millet stalks, and when in work a daily allowance of gram. One of the Government stud horses is stationed at Kaira. In 1876-77 he served thirty-three mares.

Few camels are bred in Kaira, but large numbers are brought during the fair season from Márwár and Káthiáwár to graze in the district. A fee of one young camel for each hundred head is paid to Government. The animal is sold and the price credited to revenue. The drivers are for the most part Rajputs and Rabáris. A full-grown camel varies in price from £4 to £15 (Rs. 40-150). Asses returned at 6325 are of two kinds, the common ass and the big white ass of Hálár in Káthiáwár. The females are kept only by

Chapter II. Production. Animals.

potters or *kumbhárs*, and the males by rice huskers or *golás*. They are used to carry bricks, earth, and rice. In value they vary from 6*s*. to 14*s*. (Rs. 3-7) for the common sort, to £1 or £1 4*s*. (Rs. 10-12) for the big Hálár sort. Fifty years ago many *charotar* villages were infested with swarms of tame pig. These animals, ownerless and uncared for, lived on such garbage as they could pick up. Filthy and useless they did much harm to the crops. At last so great was the nuisance that the richer classes hired the Vághris to cart them out of village limits and set them free. Though still plentiful they have since ceased to be a nuisance.[1]

Wild.

Of wild animals, the Tiger, *vágh*, Felis tigris, was within the last ten years (1867) always to be found in the bed or among the ravines of the Mahi.[2] But the spread of tillage and the efforts of European sportsmen in the rough country near the Mahi and in the Rewa Kántha and Panch Mahál hills have so reduced their number that they are now only occasionally met with. Four tigers were killed in 1876. But in the four preceding years none had been shot.

The Panther, *dipdo*, Felis leopardus, is from the same causes as the tiger, becoming scarce. A few are still found on the banks of the Mahi. During the five years ending with 1877 nine panthers were killed, three in 1875, four in 1876, and two in 1877.

The Wolf, *varu*, Canis pallipes, though becoming rare, is still sometimes seen roving in packs of four or five. They carry off considerable numbers of sheep and goats.

The Hyæna, *taras*, Hyæna striata; the Jackal, *siál*, Canis aureus; and the Fox, *lokri*, Vulpes bengalensis, are common, and said to destroy much poultry.

The Wild Boar, *dukar*, Sus indicus, abounds along the Sábarmati from Vautha in the west, northwards to Chitrásar, then east by the irrigation canal, past Láli along the banks of the Meshvo and Vátrak, in the grass meadows at Kanaj and Mahej, round Kaira, in the Mahudha fields, round Dadusar, and on the broad waste lands and ravines in Kapadvanj and Thásra. It does much damage to crops.

Of the deer tribe, the Blue Bull, *nilgai*, Portax pictus, formerly in numbers over the whole district, has of late years become scarcer and much more wary. They are still found chiefly in the Kapadvanj, A'nand, and Mehmadabad sub-divisions, in herds of from eight to ten. The Antelope, *kaliar*, Antilope bezoartica, is found in large numbers over the whole district. The Indian Gazelle, *chikara*, Gazella benettii, is also common.

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[1] In the town of Umreth (1830) there were said to be between 6000 and 7000 pig who ate all crops but tobacco.—Sub-Collector 11th June 1831, Bom. Rev. Rec. 406 of 1832, 175; Bom. Gov. Sel., XI., 112.

[2] In 1825 tigers were numerous along the Kaira bank of the Mahi. Bishop Heber mentions that in the beginning of that year one was bold enough to carry off a man from a numerous convoy of artillery.—Heb. Nar. II, 137. About the same time (1823) in the extreme north of the district, near Rohisa, six miles from Mehmadabad, was a hill called *Vághtekro*, or the tiger's hill, from the number of tigers that formerly infested and were still found on it.—Bom. Gov. Sel., X., 130.

Of smaller animals, the HARE, *sasla*, Lepus ruficaudatus, is found in all parts of the district.

BIRDS.

Of wild birds, the GOOSE, *gauze badak*, Anser cinereus, is found occasionally in some of the large ponds in Mátar and Kapadvanj. They appear in November and December, coming in flights, generally of from seven to ten, though sometimes of as many as twenty or thirty; they leave about the end of February when the water begins to dry, and generally before the smaller kinds of wild fowl; they have not been known to breed in Kaira; they are very shy, and hard to shoot. The BLACK-BACKED GOOSE, *nukta*, Sarkidiornis melanonotus, is found in all parts of the district, remaining throughout the year, and breeding in the months of July and August.

Of DUCKS and TEALS, many sorts are found, especially in Mátar, Kapadvanj, and Thásra. Except the WHISTLING, Dendrocygna arcuata, and the COTTON TEAL, Nettapus coromandelacus, which stay all the year round and sometimes breed in the district, most varieties of duck come in October and go in the end of February, or in the less cultivated parts of the district, early in March. SNIPE, *pánichal*, of three kinds, the common, Gallinago scolopacinus, the Jack, Gallinago gallinula, and the Painted, Rhynchœa bengalensis, are in the cold season found all over the district, but chiefly in the Mátar, Kapadvanj, and Thásra sub-divisions. They come in very poor condition early in October, and except in especially well-watered places, leave by the end of February. Snipe are never known to have bred in the district. BUSTARD, *malduk*, Eupodotis edwardsii, though not common, are found in all parts of the district, but chiefly in Thásra and Kapadvanj. They frequent large uncultivated plains, generally in bands of from four to five. They stay in the district during the whole year, breeding from October to March. FLORICAN, *kadmohar*, Sypheotides auritus, are found in small numbers all over the district. They come in the month of June after the first fall of rain. Taking first to damp low lying land as the rain increases they gradually seek higher ground; they breed in the district, but leave it in August when the young birds are able to move.[1]

PARTRIDGES of two kinds, the Painted, Fráncolinus pictus, and the Grey, Ortygornis pondiceriana, are found all over the district. They stay during the whole year; the grey breeding from February to May, the painted from June to October. The grey lives near villages, the painted in the more open and lonelier parts.

Of QUAIL, the two chief kinds are the Grey and the Rain. The Grey, *lavri*, Coturnix communis, is found in all parts of the district. They come in October and November, and almost all go in March. A few stay, and from June to August breed in the district. Unlike the Grey Quail, the Rain Quail, Coturnix coromandelica, breeds in Gujarát and remains throughout the year. Towards the end of June, soon after rain has fallen, he is found in the *kodra*, Paspalum scrobicu-

[1] Florican would seem not to go far as they are found in numbers during the hot season in the islands of the Narbada.

Chapter II. Production.

latum, then in the rice, next in October and November, in millet fields, then they are in grass, then about January in pulse, in February in irrigated wheat, and during the hot months in tobacco and castor-oil. Keeping together in large flocks at the beginning of the rains, they pair in July and August, and during the cold weather months are found in small bands, often in company with the grey quail.

BIRDS.

SAND GROUSE, *battir*, Pterocles exustus, are found in considerable numbers in the open plains all over the district. They breed from December to May, and in the morning are generally to be found near water.

CRANE, *kalam* or *kulin*, Grus cinerea, are found in all parts of the district, especially in the open lands of the Mátar, Kapadvanj, Mehmadabad, and Thásra sub-divisions. They come about the end of October and leave in February or March. In the early morning they feed in fields of rice stubble, and about eight or nine, in flocks of two or three hundred, they rise and fly high in the air. During the heat of the day and at nights they settle in open bushy land or plains generally near the banks of rivers.

STONE PLOVER, *barsiri*, Œdicnemus crepitans, are found, though in small numbers, in lonely uncultivated tracts all over the district.

SPOON BILL, *chamach char*, Platalea leucorodia, are found in pond and marshes two or three together. Though, as a rule, migratory, they are said occasionally to breed in the district.

BITTERN, *nari*, Botaurus stellaris, are found in ponds, generally solitary; they breed in the district, and are not known to leave it.

PEA-FOWL, *mohar*, Pavo cristatus, abound all over the district, and being well treated by the people are found in numbers in and near the villages. They breed from April to October, and are in finest feather during the hot months (April-June).

GREEN PIGEON, *hariál*, Crocopus chlorigaster, are found all over the district, especially in the open well-wooded parts. Some are said to stay all the year round.

SNAKES.

The two chief poisonous snakes are the Cobra, Naja tripudians and the *Phursa*, Echis carinata. Though Kaira was much infested with snakes, the first attempt in 1856, by the offer of rewards to induce the people to kill them failed. Of late years, though the rewards have been lowered in the case of a cobra from 1*s.* 6*d.* to 6*d.* (12 as.—4 as.), and for other snakes from 1*s.* to 3*d.* (8 as.—2 as.) 199 snakes were killed in 1875, and 259 in 1876. In 1877 the number had again fallen to ten. Human deaths from snake-bites vary much from year to year. In 1856 there were forty-five, between 1866 and 1870 on an average about sixty-two, in 1876 twenty-five, and nineteen in 1877.

FISH.

The rivers of the district, the Mahi, the Vátrak, the Shedhi, the Meshvo, and the Mohar, are well stocked with fish. Of the following thirty-one kinds, twenty-two are found in fresh water, and nine in the river Mahi within tidal limits. The twenty-two fresh water fish are:—

(1). The Máhsir, or *Kudnára*, Barbus mosal, classed as a soft finned fish, in size, strength, and activity, little inferior to the salmon, is found in the Mahi, Vátrak, Meshvo, and Sábarmati rivers. The *máhsir* may readily be known by a peculiar salmon tint on the belly and a deep guard or shade hanging over the mouth. It spawns during the rains, going up the river when in flood, and generally coming back as soon as the force of the flood is spent. It eats anything, grain, shrimps, crabs, fish, and frogs. Especially of an evening as it works down stream its curious habit of taking, one after another, five or six heavy rolling porpoise-like leaps has given it its name of *kudnára*, or the jumper. Especially by the natives it is much prized for food. It is generally caught in the coarse trawling net, or *máhajál*, and sent in considerable numbers to Baroda. Fished with the rod and fly, or if larger fish are fished with the rod and artificial minow or spoon, the *máhsir* gives very good sport. From dawn to sunrise, or even as late as nine, and in the afternoon from four to dark are the best times for fishing. Though the heavier fish are found in deep pools, from many a knee-deep rapid two or three good *máhsir* may be drawn. In 1877 towards the close of the season (March), with a rod and fly, in one day seventy pounds of fish were landed, the largest two feet six inches long and weighing thirty pounds. Still the stock of *máhsir* is much less than it might be. Kolis dam the head of a small stream, leaving only four or five openings, and opposite each opening draw a cloth or place closely plaited deep bamboo-baskets, catching swarms of almost uselessly small fry. Large fish also are caught in numbers, poisoned by branches of the milk bush. (2). The carp, *Debra*, and *Darai*, Barilius Bakeri, a silver-scaled fish, about a foot long and a pound in weight, is found in all the rivers and many of the ponds of the district. Like the *máhsir*, the carp breeds during the rainy months, going up the river to spawn in times of heavy flood and soon returning to the deeper pools down the stream. It is much prized as food, especially by natives. By the natives it is generally killed by netting. Among some of the wilder tribes, towards the close of the hot weather, it is a favourite amusement for a party of men, women, and children to dash into one of the big pools, and with small triangular nets in their hands, wading up to the shoulders, to clear the whole place of carp. With the rod, either with flour or worm bait, or with the fly, they can be caught in considerable numbers. But the sport is much tamer than *máhsir* fishing. Like the *máhsir* fry, vast stores of young carp are destroyed by basket and cloth traps. (3). The *Marel*, also called *Dorch*, a handsome fish of the pike species, is sometimes found three feet long and from twenty to thirty pounds in weight. The *marel* lives both in ponds and in rivers, generally in the bank. They breed twice a year, in December and January, and again in June. They are known to hollow a place for the spawn,[1] and until the fry are from two to three inches long to watch by them in turns, protecting them with the greatest fierceness. Though greedy, they

[1] They are also said before spawning to nibble blades of grass from the water's edge and make them into a tray or nest for the eggs.

Chapter II. Production. Fish.

are very shy. They are killed in two ways, either by the rod and frog bait, or shot when they come to the surface. Though only stunned by the bullet, the *marel* can generally be secured before he recovers. The *marel* is a favourite fish, especially with Europeans. (4). The *Pádia*, a large scaleless fish, sometimes from two to three feet long, and weighing as much as twenty pounds, is said to breed in the hot weather, the female depositing the eggs at any time during the rains when the river is heavily flooded. It is caught chiefly in the strong trawling net. It is eaten by Europeans and natives. (5). The *Nagra*, a large fish, sometimes two feet long and ten pounds in weight, like the *pádia*, lays its eggs when the rivers are deep in flood. It is caught chiefly by the strong trawling net, and is a favourite article of food with the natives. (6). The *Rau*, up to three feet long and fifteen pounds in weight, lives both in rivers and ponds. It breeds during the rains. Generally caught in the coarse trawling net, it is much liked, especially by natives, and is sent in considerable quantities to Baroda. (7). The *Baus*, or *Bavus*, with large silvery scales, found up to three feet in length and weighing from thirty to forty pounds, lives in deep ponds and river pools. It breeds during the rains, the female depositing eggs and leaving the fry to take care of themselves. Caught in the strong trawling net, it is eaten chiefly by natives and is sent to Baroda. (8). The *Boi*, or mullet, found up to two feet in length and weighing from eight to nine pounds, lives chiefly in rivers. It breeds during the hot season, the females laying eggs before the rains set in. In the first floods it makes for the sea and does not come back till November, when the water is clear. Generally caught in the coarse trawling net, it is sometimes shot. It is much prized by Europeans. (9). The *Singkro*, or *Katio*, a scaleless barbed fish, found from two to three feet in length and weighing about fifteen pounds, lives in rivers and ponds. It breeds in June; the female hollowing a place in the river bank, and in turns with the male watching the young fish with the greatest care. Sometimes caught with a line and bait, it is generally taken in the coarse trawling net. It is a favourite food with the natives. (10). The *Sarmái*, a rather uncommon scaleless fish, said to have barbs at the gills that wound as keenly as a scorpion's bite, is seldom found more than a foot long or a pound in weight. It lives chiefly in rivers, spawning during the floods of the rainy season. Caught both on baited lines and in nets, it is much prized as an article of food, especially by Europeans. (11). The *Belja*, or *Karothi*, a common bright-scaled fish, seldom found more than a foot long or over three pounds in weight, lives both in rivers and ponds. It breeds during the rainy season, spawning when the rivers are in flood. It is caught on the long line and in nets, and is eaten only by the natives. (12). The *Báno*, or eel, up to three feet in length and a pound in weight, is found in ponds and rivers. It breeds in the rainy season when the rivers are in flood. It is caught by the long line and in nets, and is chiefly eaten by Europeans. (13). The prawn, known as the *Zingo*, *Sondia*, *Roi*, *Alu*, or *Kolimbu*, common both in rivers and ponds, and caught in nets, is a favourite article of food, both with Europeans and natives. (14). The *Ghálu*, or *Moru*, with dark,

lustrous scales, found a foot long, and half a pound in weight, lives both in ponds and rivers. It breeds during the rainy season, and is caught both by the hook and the net; it is eaten by Europeans. (15). The *Bhagna* or *Kasoda*, a bright-scaled fish, found about one foot long and two pounds in weight, lives both in ponds and rivers. It breeds in the rainy season. It is caught in nets, and eaten chiefly by natives. (16). The *Marki*, about six inches long and half a pound in weight, is chiefly a river fish. It spawns during the rainy season. It is caught in nets, and eaten chiefly by natives. (17). The *Ráya*, a bright-scaled fish, about six inches long and half a pound in weight, lives chiefly in rivers, where it breeds in the rainy season. It is netted and eaten chiefly by natives. (18). The *Gohari*, a small, bright-scaled fish, about a foot long and three quarters of a pound in weight, is found chiefly in the rivers, where it breeds during the rainy season. It is netted, and eaten chiefly by natives. (19). The *Chal*, a small, delicate-scaled fish, seldom over half a foot in length or a quarter of a pound in weight, is chiefly a river fish, where it breeds in times of flood. Though generally netted, it gives good sport with a rod and line, and as an article of food is much liked by Europeans. (20). The *Zarva*, like the *chal*, but smaller, not more than four inches long and something under an ounce in weight, is almost entirely a river fish. It breeds in the rains, rushing up the rivers when in highest flood. It is caught in the small meshed net and eaten by the natives. (21). The *Moela*, or *Bhát*, is another small fish, in appearance and habits very like the *Zarva*. (22). The *Chingi*, *Shingi*, or *Kadva*, is a dark-coloured scaleless fish, not unlike the eel. It is said to have poisonous barbs at the gills, which wound as severely as a scorpion's bite, and cause three days fever. It is about a foot long and two pounds in weight, and though living chiefly in ponds, is found in rivers and sometimes in wells. It is caught in the small meshed net, and is a favourite food with Europeans.

Salt water fish are found only in the Mahi below the tidal limit. They belong to two classes, those found in the cold and hot weather, and those found in the rains. Of the cold weather fish there are six chief sorts, the *Fausta*, the *Zinja*, the *Zinja Chola*, the *Bamvlo*, the *Biu*, and the *Kantia*. Of rain fish there are three, the *Pálva*, *Dodi*, and *Magra*. Of these the *dodi* is the largest, growing to ten pounds in weight. The *dodi* and the *pálva* are much esteemed, and are salted as well as eaten fresh. The rainy season fish come into the river about June, and after staying for about a month pass out again into the gulf. They would seem not to spawn in the river, no fry have been found in the Mahi, and on their way back the old fish are often taken heavy with eggs. These fish are all caught in the *golva*, the long pocket-shaped tidal stake net.[1]

Besides Musalmáns, Kolis, and other fish-eating peasants, among the Kaira population are three professional fishing tribes—Bhois,

[1] The Mahi tidal stake net does not differ from that in use in the Narbada.—Bombay Gazetteer, II., 366.

Chapter II. Production. Fish.

Máchhis, and Khárvás, the last of whom trade in fish.[1] Fishing chiefly with hand and drag-nets and with baited lines, they also kill large numbers, drawing them to the surface by the light of a torch, and then cutting them to pieces with swords and in the smaller streams by soaking in the water the milk-bush and other poisonous shrubs.[2]

In a district where almost all the well-to-do and influential classes object to the destruction of life there is no public fish market. The fish is carried for sale from house to house, especially to the dwellings of Rajputs, Musalmáns, and Kolis. The supply is generally greater than the demand, and the price not more than ¾*d.* (six pies) a pound in money or grain. The larger class of fish are to a small extent sent by rail to Baroda. There is little fish-salting in the district. The stock of fish in the Kaira rivers is said of late years to have considerably fallen off. In the Mahi, the common belief is that this decline is due to the river's wrath at losing cart-men's offerings. For some years the floods have been irregular and the fish unable to work up to their proper spawning grounds. There would seem also to be a very reckless destruction of life. For, though the netting of well-grown fish does little harm, the planting of fixed basket and cloth traps is said to destroy immense quantities of fry.[3]

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[1] According to the Census returns, these four classes represent a total population of 13,639 souls. Fishing is not their only means of living. Further details of these classes are given below.

[2] The nets in use do not differ from the Broach nets.—Bombay Gazetteer, II., 363—365.

[3] The accounts of wild animals, game birds, and fish, have been contributed by Major W. P. LaTouche, District Superintendent of Police.

CHAPTER III.

POPULATION.

According to the 1846 census, the total population of the district was 566,513 souls, or 354·07 to the square mile: Hindus numbered 514,558, or 90·83 per cent, and Musalmáns 51,938, or 9·16 per cent; that is, at the rate of ten Hindus to one Musalmán. There were besides, ten Christians and seven Pársis. The 1872 census showed a startling increase in population, the total returns amounting to no less than 782,733 souls, or 489·20 to the square mile, a pressure of population higher than in any other part of the Bombay Presidency.[1] Of the total number, 711,619 were Hindus, 70,741 Musalmáns, 305 Christians, and 68 Pársis. Compared with Musalmáns, while Pársis had considerably and Christians had very greatly increased, the proportion of Hindus had remained nearly constant at ten to one. The percentage of males on the total population was 53·55 and of females 46·45. 1846.

The following statement shows that in the twenty-six years (1846-1872) population advanced 38·16 per cent; houses increased from 150,628 to 218,596, or 45·12 per cent; ploughs from 54,975 to 56,916, or 3·53 per cent; and carts from 20,864 to 29,110, or 39·52 per cent. Under the head of agricultural live stock, the statement shows, in the number of oxen, an increase from 136,076 to 137,962, or a rise of 1·38 per cent; in that of buffaloes from 146,940 to 200,443, or of 36·41 per cent; in that of sheep and goats from 52,321 to 58,945 or of 12·66 per cent; in that of asses from 5935 to 6482, or of 9·21 per cent; and in that of camels from 76 to 175, or of 130·20 per cent. On the other hand, there is a fall in the number of cows from 69,179 to 52,158, or of 24·60 per cent; and in that of horses from 2913 to 2274, or of 21·93 per cent. 1872.

Kaira Population, 1846 and 1872.

Year.	Population.						Houses.
	Hindus.	Musalmáns.	Pársis.	Christians.	Others.	Total.	
1846...	514,558	51,938	7	10	...	566,513	150,628
1872..	711,619	70,741	68	305	...	782,733	218,596
Increase per cent ...	38·29	36·20	...	...	...	38·16	45·12

[1] The pressure of population per square mile varies considerably in the different sub-divisions. It is greatest in Borsad with 749, and least in Kapadvanj with 311.

Chapter III. Population. 1872.

Kaira Stock, 1846 and 1872.

Year.	Stock.									
	Implements.		Live-stock.							
	Ploughs.	Carts.	Oxen.	Cows.	Buffaloes.	Horses.	Sheep and Goats.	Camels.	Asses.	Total.
1846	54,975	20,864	136,076	69,179	146,940	2913	52,321	76	5935	413,440
1872	56,916	29,110	137,962	52,158	200,443	2274	58,945	175	6482	458,439
Increase per cent.	3·53	39·52	1·38	...	36·41	...	12·66	130·20	9·21	10·88
Decrease per cent.	...	...	...	24·60	...	21·93	...	...	...	...

Distribution.

The following tabular statement gives for the year 1872 details of the population of each sub-division according to religion, age, and sex :—

Kaira Sub-division Population, 1872.

Sub-division.	Up to 12 years.		From 12 to 30.		Above 30.		Total.		Grand Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Persons.
HINDUS.									
Kapadvanj	16,944	14,469	13,455	12,033	10,650	10,699	41,049	37,201	78,250
Thásra	16,014	13,322	13,982	11,690	11,225	10,023	41,221	35,035	76,256
Mehmadabad	15,219	12,855	14,556	12,765	11,250	11,750	41,025	37,370	78,395
Mátar	13,885	11,424	14,318	11,877	9459	9816	37,662	33,117	70,779
Nadiád	26,835	20,963	24,061	20,973	20,591	20,344	71,487	62,280	133,767
A'nand	27,107	21,294	25,363	20,738	23,212	20,374	75,682	62,406	138,088
Borsad	27,481	22,131	25,411	21,223	21,122	18,716	74,014	62,070	136,084
Total ...	143,485	116,458	131,146	111,299	107,509	101,722	382,140	329,479	711,619
MUSALMA'NS.									
Kapadvanj	1714	1629	1260	1444	1154	1284	4128	4357	8485
Thásra	1892	1627	1655	1513	1365	1283	4912	4423	9335
Mehmadabad	1428	1124	1370	1169	1156	1044	3954	3337	7291
Mátar	1594	1266	1452	1448	1038	1087	4084	3801	7885
Nadiád	3816	3017	2850	2971	2377	2670	9043	8658	17,701
A'nand	2381	1819	2103	1916	1879	1710	6363	5445	11,808
Borsad	1538	1301	1533	1396	1234	1234	4305	3931	8236
Total ...	14,363	11,783	12,223	11,857	10,203	10,312	36,789	33,952	70,741
PA'RSIS.									
Kapadvanj	...	...	...	...	...	...	...	...	...
Thásra	2	3	...	...	1	1	3	4	7
Mehmadabad	11	9	3	4	8	5	22	18	40
Mátar	...	...	2	...	...	...	2	...	2
Nadiád	4	3	4	1	2	1	10	5	15
A'nand	...	...	...	...	2	...	2	...	2
Borsar	...	...	1	...	1	...	2	...	2
Total ...	17	15	10	5	14	7	41	27	68

Sub-division.	CHRISTIANS.								
	Up to 12 years.		From 12 to 30.		Above 30.		Total.		Grand Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Persons.
Kapadvanj	1	...	3	2	1	...	5	2	7
Thásra	...	...	3	...	...	...	3	...	3
Mehmadabad	3	4	5	7	8	1	16	12	28
Mátar	2	2	1	1	...	1	3	4	7
Nadiád	...	...	...	...	...	...	...	...	...
A'nand	9	7	10	9	12	7	31	23	54
Borsad	47	36	37	33	30	23	114	92	206
Total ...	62	49	59	52	51	32	172	133	305
	TOTAL.								
Kapadvanj	18,659	16,098	14,718	13,479	11,805	11,983	45,182	41,560	86,742
Thásra	17,908	14,952	15,640	13,203	12,591	11,307	46,139	39,462	85,601
Mehmadabad	16,661	13,992	15,934	13,945	12,422	12,800	45,017	40,737	85,754
Mátar	15,481	12,692	15,773	13,326	10,497	10,904	41,751	36,922	78,673
Nadiád	30,655	23,983	26,915	23,945	22,970	23,015	80,540	70,943	151,483
A'nand	29,497	23,120	27,476	22,663	25,105	22,091	82,078	67,874	149,952
Borsad	29,066	23,468	26,982	22,652	22,387	19,973	78,435	66,093	144,528
Total ...	157,927	128,305	143,438	123,213	117,777	112,073	419,142	363,591	782,733

From the above statement it appears that the percentage of males on the total population was (1872) 53·55 and of females 46·45. Hindu males numbered 382,140, or 53·70 per cent, and Hindu females numbered 329,479, or 46·29 per cent of the total Hindu population; Musalmán males numbered 36,789, or 52 per cent, and Musalmán females 33,952, or 48 per cent of the total Musalmán population; Pársi males numbered 41, or 60·29 per cent, and Pársi females 27, or 39·70 per cent of the total Pársi population; Christian males numbered 172, or 56·39 per cent, and Christian females numbered 133, or 43·60 per cent of the total Christian population.

Health.

The total number of infirm persons was returned at 2967 (males 1759, females 1208), or thirty-eight per ten thousand of the total population. Of these 125 (males 81, females 44), or two per ten thousand were insane; 223 (males 170, females 53), or three per ten thousand idiots; 529 (males 325, females 204), or seven per ten thousand deaf and dumb; 1679 (males 870, females 809), or twenty-one per ten thousand blind; and 411 (males 313, females 98), or five per ten thousand lepers.

Age.

The following tabular statement gives the number of the members of each religious class of the inhabitants according to sex at different ages with, at each stage, the percentage on the total population of the

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same sex and religion. The columns referring to the total population omit religious distinctions but show the difference of sex :—

Age.

Kaira Population by Age, 1872.

Age.	Hindus.				Musalma'ns.			
	Males.	Percentage on total male Hindu population.	Females.	Percentage on total female Hindu population.	Males.	Percentage on total male Musalmán population.	Females.	Percentage on total female Musalmán population.
Up to 1 year... ...	10,997	2·87	10,461	3·17	1039	2·82	994	2·92
From 1 and 6 ..	69,495	18·18	61,714	18·73	7231	19·65	6425	18·92
Do. 6 and 12 .	62,993	16·48	44,283	13·44	6093	16·56	4364	12·85
Do. 12 and 20 .	62,494	16·35	48,184	14·62	5698	15·49	5155	15·18
Do. 20 and 30 ..	68,653	17·96	63.115	19·15	6525	17·73	6702	19·73
Do. 30 and 40 ..	51,357	13·43	46,749	14·18	4963	13·49	4739	13·95
Do. 40 and 50 ...	31,666	8·28	28,340	8 60	2983	8·10	2827	8·32
Do. 50 and 60 ...	17,060	4·46	17,791	5·39	1553	4·22	1861	5·48
Above 60	7426	1·94	8843	2·68	704	1·91	885	2·60
Total ...	382,140	...	329,479	...	36,789	...	33,952	...

ge.	Christians.				Pa'rsis.				Total.			
	Males.	Percentage on total male Christian population.	Females.	Percentage on total female Christian population.	Males.	Percentage on total male Párasi population.	Females.	Percentage on total female Párasi population.	Males.	Percentage on total male population.	Females.	Percentage on total female population.
Up to 1 year... ...	10	5·81	4	3·00	2	4 87	..	...	12,048	2·87	11,459	3·15
From 1 and 6 ..	26	15·11	27	20 30	10	24·39	7	25·92	76,762	18·31	68,173	18·75
Do. 2 and 12 ...	26	15·11	18	13 53	5	12·19	8	29·62	69,117	16·49	48,673	13·39
Do. 12 and 20 ..	28	16·27	22	16·54	6	14 63	...		68,225	16·28	53,361	14·68
Do. 20 and 30 ..	31	18·02	30	22·55	4	9·75	5	18 51	75,213	17·94	69,852	19·21
Do. 30 and 40 ...	27	15·69	15	11·27	10	24·39	5	18·51	56,357	13·45	51,507	14·17
Do. 40 and 50 ..	12	6·97	9	6·76	1	2·43	1	3·70	34,662	8 27	31,177	8·57
Do. 50 and 60 ..	8	4·65	6	4·51	3	7 31	1	3·70	18,624	4·44	19,659	5·41
Above 60	4	2·32	2	1·50	...	...	...	...	8134	1·94	9730	2·68
Total ..	172	...	133	...	41	...	27	...	419,142	...	363,591	...

Religion.

The Hindu population of the district belongs, according to the 1872 census, to the following sects :—

Kaira Hindu Sects, 1872.

Vaishnavs.						Shaivs.	Ascetics religious mendicants.	Unsectarian Hindus.	Shra'vaks or Jains.	Total.
Rámánuj.	Vallabháchári.	Kabirpanthi.	Mádhváchári.	Svámináráyán	Bijmárgi.					
206,948	109,316	11,800	6351	29,997	132,880	47,175	1159	157,009	8984	711,619

From this statement it would seem, that of the total Hindu population, the Vaishnavs numbered 497,292, or 69·88 per cent; the

unsectarian classes 157,009, or 22·06 per cent; the Shaivs 47,175, or 6·62 per cent; and the Shrávaks, or Jains, 8984, or 1·26 per cent. The Musalmán population belongs to two sects, Sunni and Shia; the former numbered 68,527 souls, or 96·87 per cent of the total Musalmán population; and the latter, including the Surat or Dáudi trading Bohorás, the Momnás, and few Khoja families, numbered 2214 souls, or 3·13 per cent. The Pársis are divided into two classes, Shahanshái and Kadmi; the number of the former was fifty-five or 80·88 per cent, and of the latter was thirteen or 19·12 per cent. In the total of 305 Christians, are included seventeen Catholics and 292 Protestants, including 39 Episcopalians, 10 Presbyterians, and 243 native Christians.

Occupation.

According to occupation, the census returns for 1872 divide the whole population into seven classes:—

I.—Employed under Government or municipal and other local authorities, numbering in all 5289 souls or 0·67 per cent of the entire population.

II.—Professional persons 7012 or 0·89 per cent.

III.—In service or performing personal offices 7364 or 0·94 per cent.

IV.—Engaged in agriculture and with animals 176,764 or 22·58 per cent.

V.—Engaged in commerce and trade 7091 or 0·90 per cent.

VI.—Employed in mechanical arts, manufactures, and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption 53,455 or 6·82 per cent

VII.—Miscellaneous persons not classed otherwise—(*a*) wives 229,857 and children 286,190, in all 516,047 or 65·93 per cent; and (*b*) miscellaneous persons 9711 or 1·24 per cent—total 525,758 or 67·17 per cent.[1]

Race.

The general chapter on the population of Gujarát includes such information as is available regarding the origin and customs of the Kaira people. The following details show the strength of the different castes and races as far as it was ascertained by the census of 1872.

Priests.

Under Bráhmans came, exclusive of sub-divisions, forty-nine divisions, with a strength of 43,301 souls (males 21,887, females 21,414), or 6·08 per cent of the total Hindu population. The service of Government is the employment most coveted by Bráhmans of all classes. But except the Nágars and Khedáváls, who act as merchants, money-lenders, and pleaders, the majority of Bráhmans live on alms. Among Bráhmans, the Nágars numbering 1808 or 4·17 per cent of the total Bráhman population hold the first place. Next to the Nágars, the Khedával or town of Kaira (Kheda) Bráhmans, in number 9920 or 22·90 per cent of the whole Bráhman population, are the most prosperous and influential class. Families of this caste are under the same name settled in Benares, Haidarabad, Seringápatam, and other parts of India. They are said, about a thousand years ago, to have been brought from the Deccan and settled in Gujarát. Industrious,

[1] Minute details of each of these main classes will be found in the 1872 Census Report, II., 236-265. The remarks in foot-note 1, at page 51 of the Surat Statistical Account, apply to the details of this classification by occupation.

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frugal, and intelligent, most of them hold good positions as land-owners, money-lenders, traders, and Government servants. Among the remaining sub-divisions, the most noticeable are the Vadádra Bráhmans. These men, for the most part residents of Mehmadabad, travel all over Gujarát. By the pretended practice of magic and by begging they occasionally amass considerable fortunes and settle in Kaira as money-lenders. A few Deccan Bráhmans, descendants of some who during the eighteenth century came from Poona with the Marátha armies, continue to hold respectable positions in the service of Government.

Writers.

Under the head of writers came three classes, Brahma Kshatris 88, Parbhus 62, and Káyasths 8, with a total strength of 158 souls (males 93, females 65), or 0·2 per cent of the total Hindu population. The Brahma Kshatris are the descendants of one family, who, as hereditary district officers, hold an estate in the village of Alina in the Nadiád sub-division. The younger branches of the family have from time to time left Alina in search of a livelihood. But though settled in different parts of the district they still keep up their connection with those of their family who have remained at home. The Parbhus belong to two classes, Páthára and Káyasth. The Káyasth Parbhus settled in Gujarát after its conquest by the Maráthás (1723-1757). The Páthára Parbhus settled in Kaira in the beginning of the present century. They do not consider Kaira as their home, and keep family and marriage relations with members of their own caste settled in Bombay.

Traders.

Under the head of mercantile trading and shop-keeping classes came 22,532 Vániás belonging to seventeen divisions; 5852 Gujaráti Shrávaks of five divisions; five Márvádi Shrávaks and 2928 Bhátiás and Luvánás giving a total strength of 31,317 souls (males 16,440, females 14,877) or 4·40 per cent of the entire Hindu population. Of these classes the most influential are the Vániás and Shrávaks. The wealthiest of them act as money-lenders, making advances to petty village usurers, traders, merchants, and the better class of husbandmen. Those who have little capital, borrowing money on easy terms from the wealthier members of their caste employ it in usury or in dealing in cloth, grain, molasses, and oil, while some moving from village to village hawk spices and condiments. Failing to recover their claims in cash the better class of money-lenders not unfrequently secure the land of their debtor which they then allow him to cultivate at rack-rent. But they take little interest in these purchases. They never till their own land or even superintend its cultivation, and seldom invest capital in agricultural improvements. Besides engaging in trade they strive eagerly for employment in Government service. In former times they supplied the greater number of the chief district revenue officers. In 1873 the offices of district revenue superintendent or *desái* and of district accountant or *majmudár*, which for many years had existed only in name, were abolished. But in other branches of Government service many Vániás are still employed, some of them in highly-paid and responsible posts. A large number of Vániás 10,293 or 45·68 per cent

of their total strength belong to the Khadáyata sub-division. This class, an offshoot of the Nágar Vánia division, is said to take its name from Khadál a village near Parántij in the Ahmedabad district. The Shrávaks mentioned above are almost all natives of Gujarát. The Márvád Shrávaks, so powerful south of the Tápti, hold no place of importance in Kaira. Bhátiás and Luvánás, strangers from Cutch and Sind, are spreading over the rural parts of the district, and as village grocers or *nesti*, by their superior strength and energy, are depriving the local Vánia and Shrávak traders of their former monopoly.

Husbandmen.

Under the head of cultivators came five classes, with a total strength of 456,634 souls (males 248,384, females 208,250), or 58·33 per cent of the whole Hindu population. Of these 144,639 (males 82,430, females 62,209) were Kanbis; 23,508 (males 12,472, females 11,036) Rajputs; 6259 (males 3311, females 2948) Kachhiás; 976 (males 493, females 483) Mális; and 281,252 (males 149,678, females 131,574) Kolis. Of the different classes of cultivators, the most important are the Leva and Kadva Kanbis. The best farmers in the district, sober, quiet, industrious, and except on such special occasions as marriages, thrifty, they number altogether 144,639 souls or 20·32 per cent of the whole Hindu population. The Leva Kanbis with a total strength of 131,781 souls are most numerous in the sub-divisions of A'nand, Nadiád, and Borsad; the Kadva Kanbis number altogether 12,768 souls in Kapadvanj and Mehmadabad. Among the members of each of these castes, there exists a subordinate division into *pátidárs*, originally village shareholders, men of considerable estates, and *kanbis* or simple cultivators. This distinction, though based on difference in wealth and social position and not in variety of blood or race, is sufficiently marked to form an obstacle to intermarriage. Again among the *pátidárs* or better class of Leva Kanbis, the landowners of some villages hold among their caste fellows a position of special honour. This section of the caste, probably the descendants of the leading men among the original settlers in Gujarát, are known as men of family or *kulia*. The rest as men of no family or *akulia*. Formerly there was a keen competition among the lower families to marry their daughters into the higher houses, and great sums were paid to secure this honour. But of late years this custom has to a great extent disappeared. The bulk of the lower families agreed to marry only among persons in their own social position, and among themselves to give or take in marriage without claiming any dowry. Under these circumstances those of high family were forced to marry among their own houses. In 1872 out of 4290 marriages, 3977 were arranged by an interchange of children. Cultivating Rajputs belong to two classes, *thákors*, heads of families, who still retain considerable landed estates, and *garásiás*, descendants of the younger branches of Thákor houses, who in many instances have sunk to the position of ordinary peasant proprietors. The landed gentry, though they have long given up any turbulent practices, still in their dress and bearing shew themselves the representatives of a military class. Careless and improvident their estates have for many years been deeply mortgaged and heavily

Chapter III. Population. Husbandmen.

burdened with debt. So unsatisfactory was their condition that special measures for freeing them from their indebtedness were considered necessary. An Act (14 of 1877) has accordingly been passed, providing for the advance by Government of funds sufficient to meet all legitimate claims upon their estates. It is also provided that until the loan shall have been repaid the property should be managed by a Government officer. The cultivating Rajputs are less careful and hardworking than the Kanbis and inferior to them in skill. Káchhiás and Mális grow vegetables, fruit, and flowers. A few Káchhiás have become artisans.

The Koli element in the population of the district is important. They form the largest tribe or caste with a total strength of 281,252 or 35·93 per cent of the entire population. They are the most prolific section of the people, increasing during twenty-six years (1846-1872) from 175,829 to 281,252, an advance of 59·96 per cent.[1] They are also the class whose character and position have improved most under British rule. Idle and turbulent in the early part of the present century, they are now as a body quiet and hard-working. Even in the most settled times of Gujarát history, the Kolis were only partially brought under order, and during the disturbances and misrule of the eighteenth century they threw off every restraint, and for the most part lived on the proceeds of plunder and robbery. In 1812, though they had then already begun to forsake their former habits, they are described as a lawless race, conspicuous as the perpetrators of gang robberies and other atrocities.[2] In 1825 they were still one of the most turbulent predatory tribes in India. Regular troops, even the European cavalry, had continually to be called out against them. In no other part of India were the roads so insecure; in none were gang robberies and organised plundering excursions more frequent, or a greater proportion of the gentry and landed proprietors addicted to acts of violence and bloodshed.[3] In 1826 the Kolis were still further unsettled, by disturbances caused by a fanatic of the name of Govindás; and for several years after, the country would seem, to an unusual extent, to have suffered from their turbulence.[4] In 1832 bands of Kolis, from fifty to two hundred strong infested the high roads. In 1833 they twice attacked the town of Mehmadabad, and on each occasion several lives were lost. Two years later (1835) the Collector almost in despair writes 'some special regulations should be made about the Kolis. No measures of ordinary severity seem to have any effect. We never hear of a reformed Koli, or of one whose mode of life places him beyond suspicion. All seem alike, rich and poor, those whose necessities

[1] This very great increase in numbers is perhaps partly due to the unsettled state of the Kolis at the time of the 1846 census, which must have made any complete record of their numbers almost impossible.

[2] Hamilton's Description of Hindustán, I., 692.

[3] Heber's Narrative, II., 142.

[4] Government 500, March 2nd, 1831; Collector 9, January 24th, 1831, and subsequent correspondence.

afford them an excuse for crime, and those whose condition places them out of the reach of distress, are alike ready on the first opportunity of plunder.' The time of distress passed over, and after ten years of quiet (1844) the Kolis are spoken of as 'more peaceable and greatly subdued.' Most of them had settled down to the work of cultivating. Still, as a rule, they were ignorant and averse from work, and grew only the poorer and lighter crops. The ten next years brought some further improvement. They (1855) are said to commit thefts and robberies only 'sometimes when impelled by want.' They were still very poor, subsisting on the fruit of *mahuda* trees or some wild growing vegetables. But they had now some credit. They could raise loans, though the unscrupulousness of the lender and their own ignorance and carelessness made this change seem but a doubtful gain. A few years later (1857) at the time of the mutinies in Upper India, the unquiet conduct of the Kolis caused Government much uneasiness. But their attempted risings were promptly suppressed, and no general disturbance took place. After the mutiny troubles were over, the period of higher prices (1858-1864) and well paid field labour raised the Kolis to a position of comfort. Still careless and improvident in their time of prosperity (1864-1870) they failed to free themselves from their liabilities. The fall in prices during the next five years left many of them poor and deep sunk in debt. Steady improvement however continues; the great demand for produce during the last two (1876-1877) years has again lightened the money-lender's pressure. More land is brought under the plough, their mode of tillage is less careless and rude, and fewer among them lead idle or vicious lives.

Craftsmen.

Of manufacturers there were three classes with a total strength of 4030 souls (males 2031, females 1999), or 0·56 per cent of the total Hindu population. Of these 3883 (males 1957, females 1926) were Bhávsárs, calico-printers; 122 (males 63, females 59) Khatris, weavers; and 25 (males 11, females 14) Ghánchis, oil-pressers. Owing to the competition of European goods, the condition of the Bhávsárs or calico-printers is somewhat depressed. The number of Khatris or hand-loom weavers is very small. This is due not so much to the decrease of the demand for hand-woven cloth as to the fact that the great body of hand-loom weavers are Musalmáns. For the same reason the number of oil-pressers is small, the business being almost entirely in the hands of Musalmáns of the Ghánchi class.

Of artisans whose condition on the whole is said to be good, there were eight classes with a total strength of 30,447 souls (males 15,832, females 14,615), or 4·27 per cent of the total Hindu population. Of these 2740 (males 1432, females 1308) were Sonis, gold and silver-smiths; 9566 (males 5021, females 4535) Suthárs, carpenters; 515 (males 263, females 252) Kansárás, copper-smiths; 317 (males 172, females 145) Kadiyás or Chunárás, bricklayers; 17 (males 8, females 9) Saláts, masons; 5809 (males 3002, females 2807) Luhárs, blacksmiths; 2458 (males 1281, females 1177) Darjis, tailors; and 9065 (males 4653, females 4382) Kumbhárs, potters.

Of bards and actors there were four classes with a total strength of 8768 souls (males 4794, females 3974), or 1·23 per cent of

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Players.

the whole Hindu population. Of these 7070 (males 3919, females 3151) were Bháts or Bárots, bards; 810 (males 444, females 366) Chárans or Ghádvis, genealogists; 103 Bhaváyás, strolling comedians, all men; 19 (males 14, females 5) Ghandhraps or songsters; and 785 (males 328, females 457) Vyásdás. The Bháts or Bárots, the Rajput bards and genealogists, have lost much of the importance that formerly attached to them from the sanctity of their persons. Many of them, whose chances of earning a livelihood as sureties or guides have ceased, now engage in ordinary occupations, tilling the land and lending money. Some are still employed as bards or genealogists. From their head-quarters in the Kaira district the bards travel to the most distant parts of India. Their different stations are visited in order, generally after an interval of two or three years. At each station they resort to castes who claim a Rajput descent. Entertained at his patron's expense the bard generally remains in one place for several months. During this time he notes down for each family the births, marriages or deaths, that have happened since his last visit. These particulars are carried away, and on his return to Gujarát are entered in his records. The Bhaváyás, leaving their women in northern Gujarát, travel during the cold and hot seasons over the province, acting plays and returning to their homes for the rains. The Gandhraps, who teach dancing girls and accompany their dancing performances with music, go to great distances and are sometimes absent from their homes for a year or two at a time. Except a few families in Ahmedabad the Vyásdás are peculiar to Kaira. They claim to be of Bráhman descent of the same stock as the Bhaváyás. But for long they have given up acting and are now as a rule well off, supporting themselves as cultivators and money-lenders.

Servants.

Of personal servants there were three classes with a total strength of 11,742 souls (males 6161, females 5581), or 1·65 per cent of the whole Hindu population. Of these 10,647 (males 5600, females 5047) were Hajáms, barbers; 1079 (males 553, females 526) Dhobhis, washermen; and 16 (males 8, females 8) Bhistis, water-drawers.

Shepherds.

Of herdsmen and shepherds there were two classes with a total strength of 7968 souls (males 4203, females 3765), or 1·11 per cent of the whole Hindu population. Of these 1500 (males 798, females 702) were Bharváds, and 6468 (males 3405, females 3063) Rabáris. The Bharváds are an inferior class of shepherds. They wander from place to place, living in the meanest huts and with no stock more valuable than sheep and goats. The Rabáris are better off. They live in towns and villages in well built houses. They own cows and buffaloes as well as sheep and goats and are a hardy and active set of men.

Fishers.

Of fishers and sailors there were three classes with a total strength of 13,639 (males 7287, females 6352), or 1·91 per cent of the whole Hindu population. Of these 12,291 (males 6544, females 5747) were Bhois; 51 (males 46, females 5) Kháryás, sailors; and 1297 (males 697, females 600) Máchhis. Besides their employment as fresh-water fishers, the Kaira Bhois are cultivators, palanquin bearers, and domestic servants.

Miscellaneous.

Of labourers and miscellaneous workers there were fourteen classes, with a total strength of 19,302 souls (males 10,268, females 9034), or 2·71 per cent of the whole Hindu population. Of these 1129 (males 530, females 599) were Golás, rice-pounders; 53 (males 38, females 15) Bhádbhunjás, grain parchers; 376 (males 198, females 178) Maráthás of several castes from the Deccan, employed chiefly in domestic service; 27 (males 19, females 8) Purabiás of several castes from Northern India, employed chiefly in domestic service; 235 (males 138, females 97) Márvádis, labourers; 140 (males 67, females 73) Kaláls, liquor-sellers; 1081 (males 546, females 535) Ods, well diggers; 10,906 (males 5863, females 5043) Vághris, fowlers, hunters and beggars; 4076 (males 2198, females 1878) Rávaliás, cotton-tape-makers and beggars; 71 (males 34, females 37) Bávchás and Pomlás, apparently of Deccan origin, labourers; 24 (males 11, females 13) Vádis, jugglers; 25 (males 14, females 11) Vanjárás, grain carriers; 1159 (males 612, females 547) Bájániás, acrobats. Except the Golás, Bhádbhunjás, Maráthás, Purabiás, and Kaláls, whose earnings suffice for the ordinary expenses, these classes are poor, ill clad, and without credit.

Leather workers.

Of workers in leather there were two classes, with a total strength of 13,706 souls (males 7197, females 6509), or 1·92 per cent of the whole Hindu population. Of these 2980 (males 1532, females 1448) were Mochis, shoemakers in good condition; and 10,726 (males 5665, females 5061) Chámadiás, tanners, one of the depressed or unclean classes, in poor condition.

Depressed Classes.

Besides the Chámadiás there were five depressed castes with a total strength of 61,834 souls (males 32,375, females 29,459), or 8·68 per cent of the whole Hindu population. Of these 1846 (males 946, females 900) were Garudás or Dhed priests; 42,732 (males 22,384, females 20,348) Dheds, weavers and carriers of dead animals; 1905 (males 1003, females 902) Sindhvás, a sub-division of Dheds; 365 (males 191, females 174) Turis, another sub-division of Dheds; 14,986 (males 7851, females 7135) Bhangiás, or sweepers. The Dheds, distinguished alike for industry and for general good behaviour, were formerly supported in tolerable comfort by weaving coarse cotton cloth. But the establishment of steam weaving mills in Bombay and their spread through the chief towns of Gujarát has flooded the markets with supplies of a cloth, cheaper, but in other respects similar to the produce of the Dhed hand-looms. Failing to compete with this steam-woven cloth, and from their degraded position unable to procure employment in the steam factories, many of the Dheds are falling into great poverty. The Bhangiás are also in a miserable condition.

Beggars.

Devotees and religious mendicants of various names, Brahmacháris, Vairágis, Gosáis, Sádhus, and Jogis, numbered 8754 (males 5174, females 3580), or 1·23 per cent of the whole Hindu population. The fame of Dákor and Vadtál attracts many religious beggars. At Dákor several resident devotees, Sádhus, Vairágis, and Gosáis, some of them possessed of much wealth, support monasteries or *maths*, where large numbers of religious beggars are daily fed.

Among the five British districts of Gujarát, as regards the propor-

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Musalmáns.

tion of Musalmán inhabitants, Kaira stands third with 70,741 souls or about nine per cent of the district population. Of their whole number 17,701 were in 1872 returned as settled in the sub-division of Nadiád, 11,808 in A'nand, 9335 in Thásra, 8485 in Kapadvanj, and 7291 in Mehmadabad. Exclusive of 22,017 females and 26,314 children, in all 48,331 or 68·32 per cent of the whole, the male adult Musalmán population (22,410) were in 1872 employed as follows: in Government or other public service 1260; in professions 301; in personal service 459; in agriculture 13,552; in trade 526; in mechanical arts and manufactures 5557; and in miscellaneous callings 755.

In addition to the four regular divisions, Syeds, Sheikhs, Patháns, and Moghals, numbering altogether 24,170 souls or about one-third of the whole, there are several classes almost all of them descendants of converted Hindus, cultivators, traders, oil-pressers, weavers, and bricklayers. Of these the chief are the Sipáhis 15,649, village servants and cultivators; the Bohorás 13,935, traders and oil-pressers; the Molesaláms 7066, land-owners and cultivators; the Maleks 6761, land-owners and cultivators; the Táis and Momnás 663, weavers of cotton cloth; and the Chunárás 400, bricklayers. There is besides a considerable miscellaneous population, chiefly of barbers, butchers, and beggars.

Sipáhis.

The Sipáhis are probably the descendants of the mercenary troops who, in the reign of Ahmad I. (1412-1443), received allotments of land. They still, to a large extent, act as village messengers, and watchmen, *rávaniás*. As cultivators, men of this as well as of other classes of Kaira Muhammadans hold a very low position. In 1875 they are described as in more depressed circumstances than the Kolis or any other caste or tribe. Lazy, ignorant, and careless, they labour under the special disadvantage, that their women do not help them in field work.

Bohorás.

Of the two classes of Bohorás, the more important both in number and in wealth, are the Shia Bohorás, the followers of the Mulla Sáheb of Surat. In 1877, of 7733 the total strength of this class, 4758 belonged to the Dáud, and 2975 to the Sulemán sub-division. These Shia Bohorás are townsmen and traders. In Kapadvanj, their head-quarters, their large, well built, and neatly kept dwellings ornament the town. And their capital and vigour maintain an important trade in glass, soap, and carnelian stones. Unlike those of their class in Broach, the Sunni Bohorás of Kaira are not cultivators. Some of them are cartmen and carriers. But most are oil-pressers, and so as a class they are known as Ghánchi Bohorás. Speaking Gujaráti in their homes, marrying only among their own class, in food, dress, and mode of living unlike ordinary Musalmáns, there seems little reason to doubt that most, if not all, of these men are Hindus of the Ghánchi, or oil-presser caste, converted to Islám under one of the Musalmán sovereigns of Ahmedabad. An active and thrifty class, they have as carriers lost much from the competition of the railway. But in pressing oil they still find steady and well paid work.

Molesaláms.

The Molesaláms or slaves of Islám, Rajputs half converted during

the reign of Mahmud Begada (1459-1511) are for the most part cultivators in poor circumstances. The rest, representatives of old Rájput houses, still, as *thákors* and *tálukdárs*, form a somewhat important class of landed gentry.

Maleks.

Another class of Hindu converts to Islám, the Maleks are settled chiefly in the Thásra sub-division. They hold twenty-five villages, the development of twelve villages originally granted to them in reward for signal services at the siege of Pávágad or Chámpáner (1484-1486). Among these Maleks, some are superior and some are inferior holders. But all are thriftless, wanting in energy, and very generally addicted to the use of opium.[1]

Táis.

Though the Táis and Momnás are classed together in the census returns, they are in many respects distinct. Hindus of the Khatri caste, weavers by occupation, the Táis are said to have taken their name from a class of Musalmán weavers of that name in Behares. Sunnis in religion, their conversion is said to date from the reign of Mahmud Begada (1459-1511). They are at present all weavers, and intermarry with the lower class of Sunni Musalmáns. At their homes they speak Gujaráti, and both men and women dress like Hindus.

Momnás.

Momnás or Momins, that is, believers, are Shiás in religion. Originally of several different castes, carpenters, blacksmiths, and weavers, Momnás, at present, besides weaving, follow many callings, carpenters, blacksmiths, bricklayers, calico-printers, and carriage drivers. They were converted about 300 years ago by a Musalmán saint of the name of Kabir-ud-din, whose disciples they still are. They are a quiet people, very religious, moderately well off, and about the most industrious of the converted classes. At their homes they speak Gujaráti, and both men and women dress like Hindus, the men in some cases shaving the beard.

Párs.

Of the total Párs population of sixty-eight souls, seven were settled in the Thásra sub-division, forty in Mehmadabad, two in Mátar, fifteen in Nadiád, two in A'nand, and two in Borsad. Exclusive of fourteen women and thirty-one children, the adult male population were employed in 1872 chiefly as clerks in Government and Railway offices.

Christians.

Of the three hundred and five Christians, all, except the European residents, are native converts. Khásivádi, or the beautiful village in the Borsad sub-division, begun in 1847, with two families, has now (1877) thirty-one families of one hundred and twenty-one souls. Except a stamp vendor, a contractor, and the agents of the mission, the people are cultivators and weavers. In 1843, two Hindus of the Kalál or liquor-selling class, told the Surat missionaries of the London Society, that many of the people of the Mahi Kántha had a strong wish to become Christians. In consequence of this two members of the Surat mission, Messrs. Flower and Clarkson, came to the Mahi Kántha. At first they settled in Baroda, but meeting with

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1 Gov. Sel., CXIV., 311.

Chapter III. Population.

Christians.

opposition, they moved into British territory and started settlements at Dehván and Borsad. That at Dehván did not succeed, but in Borsad, besides Khásivádi, with its thirty-one families, the devotion of the Rev. J.V.S. Taylor, who lived there for twenty-eight years, has been rewarded by the steady growth of the Khásivádi village, and by the establishment of Christian communities in about sixty other villages of the Borsad and A'nand sub-divisions.[1] Though the first Christians were Pátidárs, Kolis, and Kaláls, and a few Brahmáns, Vániás, Bhavsárs, and Talávias, the mass of the converts has come from the Dhed caste. Since their conversion, though caste-feeling has lingered in the minds of several, there has been some intermarriage of castes. Vániás have married girls belonging to Pátidár and Koli families; Pátidárs have married Koli and Dhed girls; Kolis have married Dhed and Talávia girls; and Dheds have married Koli girls. The discipline in the Christian villages is ecclesiastic. Till they show signs of repentance, those who openly lead immoral lives may not join in the church communion. Sunday is pretty carefully kept as a day of rest and religious observance. The only ceremonial occasions are at baptism, communion, marriage, and death, when the rites are according to the rules of the Presbyterian Church. The expenses on such occasions are left entirely to the people's pleasure. Sometimes, both among the poor and the well-to-do, on a wedding nothing more than from 10*s.* to £1 (Rs. 5-10) for the wedding dress is spent. Occasionally the friends of the bride and the bridegroom are asked to a social meal, and rarely the invitation is extended to the whole community. The use of animal food is allowed. But owing to its cost few people indulge in it. Intoxicating drinks are strongly discouraged, and drunkenness is most uncommon. Opium is forbidden, and from their cost few families use tea or coffee. The monthly expenditure on food is estimated to vary from 8*s.* (Rs. 4) a head in a well-to-do, to 3*s.* (Rs. 1-8-0) a head in a poor family. Except for a slight improvement in cleanliness, Christians dress as they used to do when they were Hindus, poor families spending from 10*s.* to 12*s.* (Rs. 5-6), and the well-to-do from £1 to £1-10*s.* (Rs. 10-15) a year. All children are taught to read and write. The amusements of the young are such as are common among Hindus, bat and ball and other simple games. Talk is the adults' one pastime, though some of it is light and some scandalous, a good deal is religious. No one has shown special musical talent, but many are fond of music, and have learned several European airs.[2]

Dwellings.

Except in the Thásra and Kapadvanj sub-divisions, where small hamlets are numerous, the people are collected in large towns and villages. In this district there is one village or town to about every

[1] The communities vary in strength from one to twelve families. In the year 1861 an off-shoot from Borsad migrated to Sháhávádi near Ahmedabad, others to Gogha, Surat, and Rajkot. According to the latest mission census (1878) the total population of native Christians in Gujarát and Káthiáwár numbers 847 or with 893 unbaptised adherents a total community of 1740 souls. Of these 1166 were in Kaira, 487 in the Borsad, and 679 in the A'nand sub-division.—Irish Presbyterian Mission Report, 1878, 7.

[2] Contributed by the Rev. J. V. S. Taylor.

Chapter III. Population. Dwellings.

three square miles of land, each village containing an average of 1333 inhabitants, and about 372 houses. Many villages were once walled, but the fortifications of most are now in ruins. With the exception of the people of thirteen towns, numbering 137,297 souls or 17·54 per cent of the entire inhabitants, the population of the Kaira district, according to the census returns of 1872, lived in 574 villages, with an average of 1124 souls per village. Five towns had more than 10,000, and eight more than 5000 inhabitants. Excluding the thirteen towns and 518 hamlets, there were 574 inhabited state and alienated villages, giving an average of 0·36 villages to each square mile, and 1333·44 inhabitants to each village. Of the whole number of villages, forty-eight had less than 200 inhabitants; one hundred and thirty-four from 200 to 500; one hundred and fifty-two from 500 to 1000; one hundred and fifty-one from 1000 to 2000; fifty-nine from 2000 to 3000; and thirty from 3000 to 5000. As regards the number of houses, there was in 1872 a total of 218,596 or on an average 136·62 houses to the square mile, showing compared with 150,628 in 1846 an increase of 45·12 per cent. Of the total number, 65,685 houses lodging 208,583 persons, or 26·65 per cent of the entire population at the rate of 3·18 souls to each house were buildings with walls of fire-baked bricks and roofs of tile. The remaining 152,911 houses, accommodating 554,150 persons or 73·35 per cent with a population per house of 3·75 souls, included all buildings covered with thatch or leaves or whose outer walls were of mud or sun-dried brick. The mud and thatch huts are found chiefly in the hamlets and small villages; towns and large villages showing a great number of well-built and prosperous looking dwellings. Besides the increase in the number of houses, there has, during the last thirty years, especially among the Kolis, been a marked advance in the style of building, and now the cheapening of the supplies of stone and timber by the opening of the railway to the Mahi will do much to help house-building. The Koli hamlets in the east of the district and along the banks of the Mahi were in 1844 almost entirely straw huts. In 1876 an inquiry made by the Collector showed that in thirty-four Koli villages, of a total of 6281 houses, 92 were of the first, 5043 of the second, and only 1146 of the third or straw-hut class. Another class had in 1844 already done much to improve their houses. These were Bráhmans, Vániás, and other Hindus of capital, who under the former Government had from fear of exaction been careful to give no sign of their possession of wealth.

Communities.

Under land tenures some description will be found of the constitution of the two classes of villages, the simple or *senja*, and the sharehold or *narvádári*. Village servants belong to two classes; those useful to Government, and those useful to the village community. Under the first head come the village headmen; the revenue headman, *ughrátdár*, or collector; the police, *mukhi*, or chief; the village accountant, *taláti*; watchmen or messengers, *rávaniás* and *rakhás*; the tracker, *pagi*; and sweepers and police of the Dhed and Bhangia castes. Village headmen are as a rule hereditary. In Thásra, Kapadvanj, and Mehmadabad, there are more Koli villages

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than in other parts of the district, and in these the headman is usually a Koli. In others, the headmen are Musalmáns, Rajputs, and occasionally Bráhmans and Vániás, but the majority are Kanbis. The *rávaniás*, or village watchmen and messengers, wear belts and are paid sometimes in land and sometimes in money. The duties of *pagis*, *rakhás*, and *bhangiás*, vary considerably in different villages. Besides his regular work as a tracker, the *pagi* is in some villages a watchman. The *rakhás* do duty as police and watchmen. The Bhangiás are sweepers, carriers of dead animals, and guides.[1] Except the village accountant or *taláti*, who receives only money, village servants are paid either in cash or land or in both.[2] The servants useful to the village community are the village priest, *ghámot* or *bhat*; the potter, *kumbhár*; the barber, *hajám*; the blacksmith, *luhár*; the carpenter, *suthár*; the tailor, *darji*; and the water-drawer, *kosio*. These men are paid by the villages in grain and cash. The potter, the barber, and the blacksmith also enjoy Government land on payment of one quarter to one-half of the full rent. Every village has its headman, its accountant, its messengers, its priest, its watchmen, and its sweepers. The extent to which any village supports the other members of the complete staff depends on its size and its distance from large villages or country towns. Though some villages are called *pátidári* or sharehold, that is Kunbi, and others, *dhárála*[3] or armed, that is Koli, the whole of the people do not in any case belong to one caste. Besides cultivators of different castes, few villages are without a shopkeeper, either a Vánia or a Bráhman.

Migration.

Thirty-four years ago (1844) the Kaira people are described as most unwilling to leave their villages. They were said never to move unless forced by extreme poverty or inability to pay their debts. Eleven years later (1855) when the Panch Maháls were transferred to the Bombay Government, the Kaira Collector complained that in spite of the most advantageous offers none but a few discontented individuals were willing to take land. Though this dislike to moving is still true of the bulk of the people, the increased pressure of population and the easier means of travelling have united to make considerable sections of the Kaira population willing to leave the district in search of work. Of the higher classes, some Bohorás and Vániás go as traders as far as Bombay and Poona. These men generally leave their families behind them, returning to them when they can,

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[1] Details of the position and duties of the different classes of village servants are given in the Broach Statistical Account.—Bombay Gazetteer, II., 381-387.

[2] Capt. Cruikshank (20th December, 1826) in his Nadiád Survey Report says:—"The blacksmith, *luhár*, receives annually from each cultivator fifty pounds of grain per plough, and in return keeps all agricultural implements in repair. The carpenter, *suthár*, receives in like manner, and on the like conditions, sixty pounds; the potter, *kumbhár*, forty pounds; the tailor, *darji*, forty pounds; and the barber, *váland*, forty pounds. At all village marriages the blacksmith brings a small iron lamp or *lámandivo*, receiving two shillings in return; the carpenter brings a *bájat* or wooden stool, and is paid two shillings; the potter supplies earthen pots for the marriage feast and gets three shillings. The tailor brings no offering, but receives upon the marriage of a boy one shilling, and upon that of a girl two and half pence. The barber is paid three shillings upon the marriage of a shareholder, *pátidár*, and two shillings upon that of a Koli."

[3] Dhárála, an armed man.—Káthiáwár Sel., Part I., 4.

bringing their savings to spend in their native town, and in their place of trade owning nothing but their office and its scanty necessary furniture. Others of the educated classes move to Bombay, Baroda, and Rájkot, in search of Government or other employ. Like the merchant, they keep a house in their native town. But unlike him, they generally take their families with them. Of artisans, carpenters, sawyers, and brickmakers, go every fair season to the Baroda and Broach districts, offering their services to house builders. By this means they generally earn a good sum of money, living on an allowance of grain, and taking back with them almost the whole of their money wages. Of personal servants, many barbers leaving their families at home, go to Surat and Bombay and stay there for one or two years at a time. Of carriers there are the Musalmán Ghánchis or oilmen, who in four-or-five-pair bullock wagons take large quantities of tobacco to Ratlám, Indor, and Málwa, bringing back wheat and *mahuda* flowers, and the Vanjárás on their pack bullocks, bringing wheat and Indian corn from Málwa and taking back salt. Of the lower classes, besides the professional wanderers, the religious beggars, the Ods or wandering diggers, and the shepherds, unskilled field labourers to some extent, move about the district in search of work. During the year these men find employment in three different places; in September and October, in the Mátar rice lands; in January, in the cotton districts south of the Mahi and west of Cambay; and in March, in the Ahmedabad wheat country. These labourers, Kolis, Bhils, and Dheds, have of late years, by the use of steam gins, lost their best paid employment, the hand ginning of cotton. In former times, after about four months of cotton ginning, a man and his wife and one or two children used to come back with savings amounting to nearly £10 (Rs. 100).[1]

[1] A'nand Mámlatdár's Report (1876).

CHAPTER IV.

AGRICULTURE.

Chapter IV. Agriculture.

AGRICULTURE, the most important industry of the district, supports 529,334 persons or 67·62 per cent of the entire population.[1]

Soil.

The soils of the district are of four chief kinds, light or *gorát*, medium or *besar*, black or *káli*, and alluvial or *bhátha*. For agricultural purposes each of these main classes includes several varieties. The light or *gorát* is the prevailing soil, varying in quality from the loose grained yellow sand of the fields near the Sábarmati and the Mahi to a rich light-brown mould, common in the central sub-divisions, and found to perfection in the south-west corner of Mátar. The richer variety, known as *gorádu besar*, contains a large proportion of organic matter, and seems to a great extent to be artificial, the result of the careful tillage of the Kanbi cultivators. Under medium or *besar*, come several soils, varying from heavy sands to light clays. Soils of this class are pretty generally distributed over the whole district, though nowhere over any large area. Under black or *káli*, come a clayey sedimentary soil that collects in low lands and ponds; the salt or *khár*,[2] and the cotton land in the south-west of Mátar; the rice land in the north near the Khári river; the waste and ill-drained *mál* or upland, in Kapadvanj and Thásra; and a coarse, shallow, and dry soil, called *mardi*, found near the river Mahi. As a rule, the Kaira black soil is poor. It is scarcely ever deep, and is most of it mixed either with soda or limestone. Alluvial soil or *bhátha* is chiefly found near the Vátrak river. This, without dressing or fallow, yields year after year rich crops of tobacco, safflower, and other garden produce.

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[1] This total (529,334) is made up of the following items :—

(1) Adult males engaged in agriculture as per census of 1872	176,651
(2) Wives of ditto calculated on the basis of the proportion the total adult female population of the district bears to the total adult male population	159,144
(3) Children of 1 and 2 calculated on a similar basis	193,539
Total ...	529,334

This calculation is necessary because the census returns, including many of the women under VII. (Miscellaneous), show a total of only 112 under the special head Adult Agricultural Females.

[2] At the time of the last survey (1862) between Limbási and Chánor, in the west of Mátar, was a wide tract of black soil, covered with a hoar frost or snow-like crust, called *khár*. This tract was supposed to have been once subject to flooding at spring tides. In 1862 the salt or *khár* crust was said to be encroaching, and to appear in ill-drained lands where rain-water stagnated.—Bom. Gov. Sel., CXIV., 417,441.

Arable area.

The state or *khálsa* villages of the district contain 935,541 acres, of which 345,016 acres or 36·87 per cent are alienated, paying only a quit-rent to the state, and 109,982 acres or 11·75 per cent are unarable waste. The total area of state arable land is therefore 480,543 acres, of which 387,711 acres or 80·68 per cent are occupied; and 92,832 or 19·32 per cent are unoccupied. Of this 92,832 acres of unoccupied arable land, 5665 acres including grazing lands, homesteads, and burial places cannot be taken up for cultivation. The whole available area of unoccupied arable land is therefore reduced to 87,167 acres or 18·13 per cent of the total state arable land. Most of the unoccupied arable land consists of the poor tracts in Mátar in the west, and in Thásra and Kapadvanj in the east of the district. Of the 387,711 occupied acres, 25,779 or 6·64 per cent consist of garden land; 58,404 or 15·07 per cent of rice land; 303,528 or 78·29 per cent of dry crop land. Of the rice land, 18,658 acres are irrigated, and 39,746 acres unirrigated.

Irrigation.

In the Mátar sub-division, except from the Khári of which some account has been given above, irrigation is carried on chiefly from wells and ponds. After the close of the cold season almost none of the ponds hold any large supply of water. They can therefore be used only for irrigating rice lands. The depth of the water-bearing strata varies much in different parts of the district. Averaging thirty-five feet in the west or Mátar sub-division, in some low-lying lands in Nadiád it is only twenty-five feet from the surface. In the north it averages about forty-five feet, and in the south, along the Mahi, varies from 70 to 140 feet. In the parts of A'nand and Borsad bordering on the Mahi, the heavy cost of wells and a certain brackishness in the water prevent any large amount of well-irrigation, and though in ordinary years the crops are but little less valuable than those on irrigated lands in seasons of scanty or ill-timed rain, the want of water is keenly felt. The chief irrigated crops are rice, tobacco, wheat, sugarcane, and garden produce. In 1876-77, of the total cultivated area, 42,585 acres or 12·47 per cent were irrigated. Of the irrigated land, 17,758 acres were under rice. In that year the returns showed 104 wells with steps, 9237 wells without steps, 531 water-lifts or *dhekudis*, and 4600 ponds. The wells most commonly in use in Kaira are *rámia* or deep, the *sundia* or shallow being found only in a part of the Mátar sub-division. The *rámia* wells yield at one time from two to eight *kos* or leather bags full of water, and the *sundia* from two to four. From most Kaira wells four leather bags can be drawn at a time.[1]

'A plough.'

In light sandy fields the area one pair of bullocks can plough varies from nine acres for the common dry crops to six acres for

[1] The present (1877) estimates for sinking wells, based on the cultivators' statements, are for a brick and mortar-built well from thirty to sixty feet deep for one water bag £30 to £68 (Rs. 300-680) and for two water bags £40 to £80 (Rs. 400-800). A ninety-feet deep brick-built well for one bag would cost £100 (Rs. 1000), for two £150 (Rs. 1500.) *Kundal* wells with wooden foundations and sides of baked clay rings, can only be sunk from thirty to fifty feet; they cost half as much as a brick and mortar well. Water can be drawn from holes dug in river beds at a cost of from 10*s.* to £1 10*s.* (Rs. 5-15).

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garden or other high-class tillage. In black soil the corresponding area is for wheat and cotton twenty-five acres, for safflower and tobacco ten acres, and for rice five acres.

Holdings.

The following statement shows, in acres, the average size of a holding ascertained at the time (1861-1867) of the introduction of the existing survey leases :—

Kaira Holdings in Acres, 1861-1867.

Size.	Borsad.	Kapadvanj.	A'nand.	Mehmadabad.	Mátar.	Thásra.	Nadiád.
Average acreage of farms	$10\frac{4}{40}$	$9\frac{23}{40}$	$7\frac{12}{40}$	$7\frac{2}{40}$	$6\frac{25}{40}$	$6\frac{21}{40}$	$5\frac{35}{40}$

This, as was to be expected in a district with so crowded an agricultural population, shows a low average holding. A peasant's family cannot, it is estimated, be kept in comfort on less than three acres of garden, five of rice land, and eight of dry crops. Cultivators with smaller holdings eke out the profits of their fields by working as labourers on the lands of their richer neighbours.

During the years (1861-1867) of the present settlement, 104,009 distinct holdings or *khátas* were recorded with an average area of $7\frac{12}{40}$ acres, and a rental of £1 15*s.* 6*d.* (Rs. 17-12-0). These holdings would represent, if divided in equal parts among the agricultural population, for each person an allotment of two acres, at a yearly rent of 9*s.* 8*d.* (Rs. 4-13-4). If distributed among the whole population of the district, the share per head would amount to $1\frac{13}{40}$ acres, and the incidence of the land tax to 6*s.* 4½*d.* (Rs. 3-3-0). In 1875-76 the total number of holdings, including private or alienated villages and the estates of superior land-holders, was 107,918. Of the total number, 62,501 or more than one-half were holdings of not more than five acres in area.[1]

Kaira Holding Details, 1875-76.

Acres.	Mehmadabad.	Kapadvanj.	Nadiád.	Thásra.	A'nand.	Borsad.	Mátar.	Total.
0 5	7080	5598	15,038	9390	9707	6920	8768	62,501
5 10	3200	3812	4838	3328	4184	3145	3359	25,866
10 20	2020	2508	2108	1559	2163	2103	1814	14,275
20 50	436	760	587	327	784	923	740	4557
50 100	31	35	42	30	149	185	80	552
100 200	9	3	11	4	34	37	22	120
200 300	1	1	3	...	3	6	5	19
300 400	...	1	1	...	2	2	1	7
400 500	2	...	1	2	...	...	1	6
500 750	...	3	2	...	1	...	...	6
750 1000	...	1	...	...	1	...	1	3
1000 1500	...	...	...	...	...	...	1	1
1500 2000	...	1	...	...	...	...	...	1
Above 2000	...	1	...	...	...	...	3	4
Total... ...	12,779	12,724	23,631	14,640	17,028	13,321	14,795	107,918

[1] Revenue Commissioner's 814, March 1st, 1877. Most of the holdings of 200 acres and upwards are the estates of superior landholders.

During the year 1877-78, 109,009 distinct holdings or *khátas* were recorded, with an average area of 6½ acres, and rental of £1 15*s.* 10½*d.* (Rs. 17-15-0). These holdings, if divided in equal parts among the agricultural population, would represent an allotment of two acres and two *guntás*, at a yearly rent of 11*s.* 1½*d.* (Rs. 5-9-0). If distributed amongst the whole population of the district, the share per head would amount to one acre and thirteen *guntás*, and the incidence of the land tax to 7*s.* 5¾*d.* (Rs. 3-11-10).

Stock.

According to the Collector's administration report for 1876-77, the agricultural stock in Government or *khálsa* villages amounted to 56,467 ploughs, 28,791 carts, 128,247 bullocks, 49,264 cows, 190,538 buffaloes, 2366 horses, 53,880 sheep and goats, and 6325 asses.

As the details of agricultural processes, crops, and cost of cultivation, given in the general chapter on the agriculture of Gujarát apply to Kaira, only a few points of local importance are noticed in this place.

Crops.

Of 362,222 acres the total area of occupied land, 20,754 acres or 5·73 per cent were in the year 1876-77 fallow or under grass. Of the 341,468 acres[1] under cultivation, grain crops occupied 301,709 or 88·37 per cent, of which 123,223 acres were under *bájri*, Penicillaria spicata; 58,898 under rice, *dángar*, Oryza sativa; 38,845 under *juvár*, Sorghum vulgare; 36,544 under *kodra*, Paspalum scrobiculatum; 29,261 under *bávto*, Panicum frumentaceum; 11,251 under wheat, *ghau*, Triticum æstivum; 3231 under barley, *jav*, Hordeum hexastichon; and 456 under miscellaneous cereals, comprising maize, *makái*, Zea mays, *káng*, Panicum italicum, and *rájagro*, Amarantus paniculatus. Pulses occupied 27,082 acres or 7·93 per cent, of which 8255 acres were under *math*, Phaseolus aconitifolius; 6825 under *tuver*, Cajanus indicus; 5148 under gram, *chana*, Cicer arietinum; 2678 under *mag*, Phaseolus radiatus; 1933 under *guvár*, Cyamopsis psoralioides; and 2243 under miscellaneous pulses, comprising *adad*, Phaseolus mungo, *chola*, Vigna catiang and *vál*, Dolichos lablab. Oil seeds occupied 3419 acres or one per cent, of which 980 acres were under gingelly oil-seed, *tal*, Sesamum indicum; two acres under rape seed, *sarsav*, Brassica napus; and 2437 under other oil seeds, details of which are not available. Fibres occupied 4239 or 1·24 per cent, of which 4122 acres were under cotton, *kapás*, Gossypium herbaccum; and 117 under Bombay hemp, *san*, Crotalaria juncea. Miscellaneous crops occupied 19,620 acres or 5·74 per cent, of which 10,161 acres were under tobacco, *tambáku*, Nicotiana tabacum; 3051 under safflower, *kusumbo*, Carthamus tinctorius; 2216 under sugarcane, *serdi*, Saccharum officinarum; 1305 under cummin seed, *jiru*, Cuminum cyminum; 536 under indigo, *gali*, Indigofera tinctoria; 118 under poppy, *khaskhas*, Papaver somniferum; and 2233 under miscellaneous vegetables and fruits.

The following statement contrasts the area of Government assessed land under cultivation in 1859-60 and in 1876-77 :—

[1] Of 341,468 acres, 14,601 acres were twice cropped.

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Crops.

Kaira Cultivation, 1860 and 1877.

Crop.		Cropped Acres.		Increase per cent.	Decrease per cent.
		1859-60.	1876-77.		
		Acres.	Acres.		
Grain ...	Rice in husk ..	33,922	58,898	73·63	...
	Wheat ...	7100	11,251	58·46	...
	Indian millet, *juvár*	41,514	38,845	...	6·43
	Common „ *bájri*	102,206	123,223	20·56	...
	Coarse grain	27,102	69,942	156·40	...
Pulses[1] ...	... ...	...	27,082	..	.
Oil seeds...	... ...	.	3419	...	...
Fibres ...	Cotton	5256	4122	...	21·57
	Hemp	...	117	...	...
Dyes ...	Indigo	360	536	48·89	..
	Safflower	1078	3051	183 02	..
Miscellaneous .	Tobacco ...	10,627	10,161	...	4·38
	Vegetables and spices	10,120	3538	...	65·04
	Sugarcane . .	1787	2216	24·00	..
	Poppy	...	118	...	..
	Total ..	242,417	356,069	46·88	...
	Add—Occupied land kept fallow ...	3795	20,754	446·87	...
	Total ...	246,212	376,823	53·05	...
	Deduct—Twice cropped land ..	...	14,601	...	...
	Total ...	246,212	362,222	...	...

This statement shows that during the seventeen years ending with 1876-77, no less than 116,010 acres of waste land were brought under cultivation. The most remarkable advance is in the breadth of rice and wheat tillage; the rice increasing 24,976 acres or 73·63 per cent, and the wheat 4151 acres or 58·46 per cent. Other kinds of cereals and pulses have in the aggregate increased by 87,820 acres or 51·46. The area under safflower has risen by 1973 acres or 183 per cent, that under indigo by 176 acres or 48·89 per cent, and that under sugarcane by 429 acres or 24 per cent. On the other hand cotton is less by 1134 acres or 21·57 per cent, and tobacco by 466 acres or 4·38 per cent.

Millet.

Among the district crops common millet, *bájri*, Penicillaria spicata, holds the first place with in 1876-77, 123,223 acres or 36·08 per cent of the whole tillage area. Compared with 1859-60 the returns for 1876-77 show an increase of millet cultivation amounting to 21,017 acres or 20·56 per cent. Millet is grown in all the lighter or *gorát* soils. It is sown in June and reaped in the latter part of September. With it are grown *math*, Phaseolus aconitifolius; *mag*, Phaseolus radiatus, and other pulses, which, taking longer to ripen, remain in the field a month after the millet crop has been reaped. Their growth seems not to interfere with the growth of the millet, and the double crop has this advantage, that often when the millet fails the pulse yields freely. The parts of the district best

[1] In 1859-60 pulses seem to have been included in grains, and oil seeds in vegetables and spices. Poppy and hemp were not shown separately.

suited for millet are the poorer soils, especially near the banks of the Mahi. The straw, though not so valuable as Indian millet, *juvár*, straw, is generally used as fodder for cattle. Millet is the people's staple grain and their principal article of food.

Kodra and Bávto.

Kodra, Paspalum scrobiculatum, and *bávto*, Panicum frumentaceum, hold the second place with in 1876-77, 65,805 acres or 19·27 per cent of the whole tillage area. Grown chiefly by the poorer cultivators, *kodra* and *bávto* along with common millet, *bájri*, form the staple food of the lower classes.

Rice.

Rice, *dángar*, Oryza sativa, holds the third place with in 1876-77, 58,898 acres or 17·24 per cent of the whole tillage area. Compared with 1859-60 the returns for 1876-77 show an increase of rice cultivation amounting to 24,976 acres or 73·63 per cent. The best rice is raised in the Khári villages of the Mátar sub-division. These lands are of black soil, the fields embanked, and most of them watered from the Khári canal. The young plants, sown about the middle of June in richly manured nurseries, are moved into the fields in July and August. For about two months, until the ear begins to show, much water is wanted, and if the direct rainfall is scanty, supplies must be drawn from wells and ponds. In other parts of the district, rice of an inferior quality is, without watering, grown in low-lying lands of black or medium, *besar*, soil. This unirrigated variety covering in 1876, 37,767 acres or 64·12 per cent of the whole area under rice cultivation, is a coarse grain used chiefly for local consumption.

Indian Millet.

Indian millet, *juvár*, Sorghum vulgare, holds the fourth place with in 1876-77, 38,845 acres or 11·37 per cent of the whole tillage area. In Kaira common millet, *bájri*, takes the place of Indian millet, *juvár*, which is less grown than in south Gujarát.

Wheat.

Wheat, though still a crop of little importance, has spread from 7071 acres in 1860 to 11,251 acres in 1876. It is sown from the beginning of October to the end of November and reaped in March. Three sorts are grown, *Dáudkhán* or *dudhia*, a high class wheat, smooth-grained and white; *dhola* or *kátha*, a low class wheat, hard and brown; and a medium variety, *dhália* or *vajia*. The high class or *dudhia*, wheat grows only in black soil. For a good harvest the field should be fallow both before and after its wheat crop. It should be ploughed from three to ten times, and unless the soil is of the best it should be manured. This sort of wheat requires forty pounds of seed to sow an acre. The middling, *vajia*, and the poor, *dhola*, grow either in black or in sandy-black soil. For a good yield, except in the best black soils, manure is wanted, but neither before nor after cropping is a fallow required. To sow an acre they both want sixty pounds of seed. The local wheat produce is not enough for the local demand. Supplies are brought from Ahmedabad and Málwa and by rail from Bombay.

Tobacco.

Tobacco holds the sixth place with in 1876-77, 10,161 acres or 2·97 per cent of the whole tillage area. Compared with 1859-60 the returns for 1876-77 show a decrease of 466 acres or 4·38 per cent. Kaira tobacco is not only the most valuable article of produce in the district, but is the finest tobacco grown in western

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India.[1] The central part of the Kaira district, the tract known as the *charotar*, is the head quarters of tobacco cultivation. The two chief varieties are the *talabdi* or local, and the *Khándeshi* brought, as its name shows, from Khándesh. The *talabdi* or local plant, grows four feet high. Its leaf is large, juicy, and tapering, the ribs and veins heavy and coarse, the general texture loose, and the colour, when ripe, a somewhat dull yellow. It is hardy, growing even in poor soils, and wants but little manure. The Khándesh tobacco grows about two feet high. Compared with the local variety, its leaf is shorter and narrower, closer grained in texture, and of a deeper and more brilliant colour. A more delicate plant, it requires richer soil and more manure, but on the other hand wants less water. Though its yield is not more than one-third of the yield of the local plant, its higher quality and its smaller demand for water to a considerable extent make up for the small outturn. Tobacco is grown either with or without water. The water need not be perfectly sweet. In fact a slight brackishness is said to improve the quality of the crop. When irrigated the crop is called *pit* or watered, when not irrigated *korát* or dry. A watered field yields twice as large a crop as a dry field. At the same time the leaf of the irrigated plant is coarser and not more than one-half as valuable. Light or *gorádu* land is the soil best suited for the growth of the irrigated crop. Towards the end of May, some time before the rains set in, plots of ground are chosen somewhat shaded, well placed for watering, the soil rich and dry.[2] About six inches of brushwood, hay, or dressing, are laid over the plot. When thoroughly dry the whole is burnt and the ashes allowed to lie on the surface. About the beginning of July, as soon as the first rain has fallen, the ashes are ploughed into the ground, or, if there was no dry dressing, the ground is manured and then ploughed. The whole is well cleaned and the surface smoothed. The seed is then sown broadcast, and if, after the young plants come up, there is no rain, they are watered. While the seedlings are growing in their nursery the cultivators are busy getting ready the field. According to the wants of the soil they give each acre from ten to eighteen tons (twenty to thirty-five cart-loads) of sheep droppings or cowdung, pond mud or dry silt, and sometimes wood ashes. When the manure is laid on, the field is ready for ploughing. With this great pains are taken, as on its depth and thoroughness the outturn greatly depends. Ploughing, *chás*, and clod crushing, *samár*, are repeated from eight to ten times. Each time the line of ploughing varies. First it runs from north to south, next from east to west, then from north-east to south-west, and so on, starting in turn from every quarter of the compass. Between each ploughing the clods are crushed and the surface smoothed. Finally, the whole field is cleaned by the harrow or *karabdi*. The seedlings are generally ready for planting in the

[1] Bom. Gov. Sel., New Series, CXIV., 145.

[2] Every tobacco-yielding village has its one or more tobacco nurseries or *vádás*, in which almost all the chief men share.

latter part of August. A nursery of one acre should yield plants sufficient to stock from twenty to forty acres. In moving them from their places in the nursery the young plants are taken up carefully with a knife or trowel, as much earth as possible being left about their roots. At the seed bed they are laid slanting in a basket and carried to the field. They are set in the ground in rows, the rows and the plants in each row distant from each other about eighteen inches for an irrigated and two feet for a dry crop. In setting each plant in its place the lower leaves are pinched off, and when the sun is strong, until the plant takes root, they have for some days to be shaded with twigs or large leaves. During its growth the Khándesh tobacco should be thrice watered. The Kaira variety wants more moisture, from five to twelve waterings, according as the well is perfectly sweet or more or less brackish. When nearly full grown the plants begin to show signs of flowering. These tops or flower stems are carefully picked off, and the whole of the plant's strength driven to its eight to twelve well grown and juicy leaves.

A growing field of tobacco is apt to suffer from several causes. Perhaps its chief enemy is the caterpillar, whose attacks are so constant, that every night and morning, until the leaves begin to change colour, they have to be searched and the insects picked off. Besides the caterpillar other insects hurt the tobacco. One worm attacks the root and withers the plant, bringing on the disease called *chith*; another worm, eating into the stem and joints, stops the growth and brings on the disease called *ganthor*. Again, any extremes of drought, heat, or cold injure the crop. With too much dry weather the disease *chanchdi* appears, and the leaves covered with spots wither. Too much damp brings over the whole plant a white coating called *cháru*, robbing the leaves of much of their pungency. Finally, there is the chance of frost, which, when it comes, blights the whole field. The time a field of tobacco takes to ripen depends on whether it has been watered. A dry crop ripens in five and a watered crop in seven months. When the leaves turn yellow and droop the crop is cut. A few stalks, about forty to an acre, are allowed to flower and their seed is gathered for the next year's sowing. Tobacco is prepared in two ways, a coarser sort for smoking, called *kálio*, and a finer, both for smoking and for snuff, called *jardo*. To make *kálio* the stem is cut close to the root and well dried by often turning it in the sun. If the stalks are very thick, to help the drying they are split down the middle. When the plants are well dried, generally after four or five days' sunning, they are housed or removed to the curing shed. Here they are sorted, the soiled lower and the small upper leaves are placed in one heap, and the rich middle leaves in another. Next, the leaves of each heap are made up in small bundles called *padás*, the largest and strongest leaves being used as wrappers or covers and the smaller ones placed in the middle. The bundles, each of which weighs from one to three pounds, are then piled up and covered with matting for three days to ferment or 'sweat.' Then they are separated and again heaped for a second sweating, and afterwards, at intervals of a week, the fermenting is repeated from four to six times. Great care and attention are

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required at the time of fermentation, as if it is either checked too soon or allowed to go on too long the tobacco is much injured. To manufacture *jardo* tobacco, the leaves are, by means of a crooked knife called *hariyu*, taken off the stems along with the skin and a little of the wood. They are then exposed to the sun from ten to fifteen days. Each day, in the early morning, while still damp with dew, they are taken to a shed. Here they are sorted into better and poorer kinds and made into bundles or *padás*. If, at the time of bundling, the leaves are found to be too dry and brittle, a small quantity of water is sprinkled over them. Fermentation or sweating is only once brought on. But if the first is imperfect, a second becomes necessary. The bundles or *padás* are ready for sale about a fortnight after they have been made up. *Kálio* is used for smoking only, and *jardo* for smoking as well as for chewing. *Kálio* is so strong and full of flavour that it is seldom or never used for smoking without being mixed with molasses paste. In its simple state *jardo* tobacco is used only for smoking in cigarettes, *bidis*, and in small pipes. Cigarettes are usually rolled in the leaves of the *ashindra* or *jinji*, Bauhinia speciosa, and sometimes in plantain leaves. In spite of its good qualities Kaira tobacco is still prepared only for native consumption. Attempts have been made to have it rolled in cigar form suited for the European market. But so far the results have been discouraging. Snuff is prepared chiefly from *jardo*, though *kálio* is occasionally mixed with it in the proportion of one part to three. Snuff may either be made entirely of the leaf, or of the leaf and mid-rib together. The bundles are first torn in pieces, and afterwards sprinkled with a solution of carbonate of soda dissolved by boiling in water. The tobacco is thrown into a heap to ferment, and then well dried in the sun and pounded in a mortar to the required fineness. The following are the estimates of the cost and profit of cultivating the local and the Khándesh tobacco.[1] For an acre of local or *talabdi*, watered from a brackish well, tillage including, £1 (Rs. 10); rent, £6 (Rs. 60); watering, £9 5*s.* (Rs. 92-8); value, £27 (Rs. 270); profit, £10 15*s.* (Rs. 107-8). For an acre of local, watered from a sweet well, tillage including, £1 (Rs. 10); rent, £6 (Rs. 60); watering, £4 17*s.* 6*d.* (Rs. 48-12); value, £13 10*s.* (Rs. 135); profit, £12 12*s.* 6*d.* (Rs. 126-4). For an acre of Khándesh, watered from a brackish well, tillage including, £1 (Rs. 10); rent, £6 (Rs. 60); watering, £2 18*s.* 6*d.* (Rs. 29-4); value, £18 (Rs. 180); profit, £9 1*s.* 6*d.* (Rs. 90-12). For an acre of Khándesh, watered from a sweet well, tillage including, £1 (Rs. 10); rent, £6 (Rs. 60); watering, £2 18*s.* 6*d.* (Rs. 29-4); value, £15 (Rs. 150); profit, £6 1*s.* 6*d.* (Rs. 60-12).

Cotton.

Cotton, *kapás*, Gossypium herbaceum, is cultivated only to a limited extent, 3812 acres in 1872 compared with 5256 acres in 1859. The plant grown is chiefly the perennial variety, locally called *roji*. Raised in light, *gorát* and medium, *besar* soils it is sown in July, and picked from the middle of January till the end of March. It occupies every seventh furrow in fields sown with millet, *bájri*, and pulse, *math*.

[1] Collector, 1603, 18th July 1876.

Cotton of the yearly sort is grown to a small extent in the black soil villages bordering on Cambay. Though its produce is inferior in value to the outturn of the yearly variety of cotton, the three years' plant has this advantage, that as its roots draw moisture from below the surface, they do not interfere with the surface roots of the grain and pulse crops. The plant is allowed to grow till the end of May, when its branches are lopped about a foot from the ground. At the end of the third year, the roots are dug out. This cotton is not worth more than one-half of the one year sort. The field is manured only once in three years. As a rule the field that has yielded cotton does not again bear the same crop till after three years are over.

Though with little success, several attempts have been made to improve Kaira cotton. In 1815, under the superintendence of the civil surgeon Mr. Gilders about 2400 acres were sown with Bourbon seed. About one-half promised well, but, though the local variety yielded a good crop, most of the Bourbon failed. The failure was supposed to be due chiefly to want of moisture, but the saltness of the land was also noticed as likely to harm a crop which does not come to perfection for two years. A bale of cotton, the produce of these experiments, consigned to London in 1816, realized 1*s.* 5*d.* the pound, or 2*d.* the pound more than the best Surat. The staple was considered rather fine and generally saleable. Mr. Gilders was authorized to make a further trial, if necessary, with the aid of irrigation. A place was chosen further east in light sandy loam. After the first heavy rains, at the end of July, the seed was sown. Three feet were left between each plant, and between each row, like the plants three feet apart, millet, *bájri*, was sown. The late rains were scanty, and until July 1817 the plants remained dwarfed and sickly. Then without watering they shot out so freely that one-half of them had to be picked out. Even then they were too crowded, and Mr. Gilders considered that eight feet was the proper distance between each shrub. The yield from about fourteen acres was 1760 pounds of clean cotton. The parcel was most favourably received in Bombay and valued at 2*s.* 3*d.* the pound. The London brokers thought it the best Bombay-Bourbon they had seen. It was fine, silky, with an even fair length staple of good bright colour, remarkably clean with a small portion of broken leaf and crushed seed and a few yellow spots.[1] With other Indian cotton at from 5¾*d.* to 14*d.* a pound it fetched 1*s.* 3*d.* In spite of this high price so great was the cost of tillage that the transaction showed a loss of twenty-eight per cent. In 1839 Dr. Burn, then in charge of the Government garden at Kaira, made some experiments in growing cotton. He tried Egyptian, two kinds of Broach, and acclimated Bourbon. Some of this acclimated Bourbon, found in the hedgerows near where Mr. Gilders had grown it in 1816, was both by the Agricultural Society of Calcutta and the Bombay Chamber of Commerce placed equal to the best New Orleans and valued at from £17 to £18 (Rs. 170-180), while the best Surat was selling at £14 (Rs. 140).[2] In 1842 some of the American cotton seed, sent out by the Court of Directors, was

[1] Royle's Culture of Cotton, 420-421.

[2] Cassel's Cotton, 12-13.

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forwarded to the Collector of Kaira for trial in his district. Some of this seed was sown by Dr. Thatcher, then in charge of the Government experimental garden. The soil was light and rather sandy, and every care was given to the crop. The plants promised well, but when about a foot high most of them, though at the time the local variety was thriving, 'withered and died off as if blighted.' A few recovered, but the outturn was very small. Some Egyptian cotton tried in the same garden almost entirely perished. The American seed distributed by the Collector to some cultivators was sown in about six acres in different parts of the district. Till about the middle of September the plants looked most promising. They flowered and formed very large pods. But the heat of October seemed to burn the leaves and more tender branches. They continued in a withered state till the cold weather partially revived them. In about one-third of the area the crop never arrived at maturity. The rest yielded about 162 pounds of clean cotton valued at £1 18*s.* (Rs. 19), or a loss of sixty-seven per cent on the cost of tillage. Samples examined by the Bombay Chamber of Commerce were found to be well cleaned and tolerably good, but far inferior to American cotton grown in Ratnágiri.[1] For some years after 1842 attempts to grow exotic cotton in Kaira would seem to have been given up. In 1861 nothing but the local three-to-five year shrub was grown.[2] Again, in 1865 and 1866 Dhárwár and New Orleans seed was sown. The plants grew about a foot high, but died after the close of the rains.[3] Now (1878), as in 1861, the local shrub is the only cotton grown. Of this there would seem to be two varieties, one called *roji* said to have been brought from Khándesh about one hundred years ago, the other called *kámni* brought from Broach about twelve years back. Partly, it is said, because it is allowed to stay four years in the ground, partly because it is sown in fields with several other crops, and partly because the seed has degenerated, Kaira cotton was in 1877 $1\frac{5}{7}d.$ or 32 per cent a pound less in value than either Dholera or Broach cotton. It is sent to Dholera, Broach, Surat, and Bombay, but it is said solely for the purpose of mixing with better varieties.[4]

Safflower.

The cultivation of Safflower, *kusumbo*, Carthamus tinctorius, is carried on in two sub-divisions, Mátar and Mehmadabad. Compared with 1859 the returns for 1876-77 show an advance from 1078 to 3051 acres. The crop is grown not so much for the dyeing power of its flowers as for the oil its seed yields.[5] About one-half of the produce is sent to Káthiáwár, Baroda, Broach, and Surat. The rest is used in the district. Safflower thrives in mixed or *besar* soil. Except in a naturally rich soil, or after a highly manured crop, the land is enriched in June at the rate of ten carts of good dressing to the acre. During the rainy season it receives four ploughings and

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[1] Cassel's Cotton, 80-81. [2] Cassel's Cotton, 82.
[3] Collector, 2114, 21st Sept. 1878. [4] Cotton Dept. Ad. Rep. 1876-77, 36.
[5] The average outturn per acre is estimated at 280 pounds weight of flowers worth £1 11*s.* 6*d.* (Rs. 15-12) and 400 pounds weight of seed worth £1 10*s.* (Rs. 15). The cost of production is estimated at £1 15*s.* (Rs. 17-8) and the profit per acre at £1 7*s.* (Rs. 13-8).

more in October or November. The seed, at the rate of seventeen pounds to the acre, is then sown with the drill; and after five or six days, without any watering, the plant springs up. Nothing further is done till in January the flowering begins. Then, at intervals of a day, each pod yields three flowers, and the whole is collected in about a month. The flowers are picked in the cool of the morning. If the picking is stopped, and the first leaves left unplucked, the pod dries and yields no flowers.

Indigo.

In 1876 the total area under Indigo, *gali*, Indigofera tinctoria, was 536 acres, 513 in Borsad and 23 in A'nand, and even this was considerably in excess of 360 the total in 1859. In the sixteenth and seventeenth centuries, indigo partly of local growth and partly brought from upper India was one of the chief exports from Gujarát. During the greater part of the eighteenth century, the indigo of the West Indian islands gained an almost complete monopoly of the European markets. Towards the close of the century the East Indian produce again rose to favour. But nearly the whole of it was grown in Bengal. In Gujarát in 1777 the cultivation chiefly for local use would seem to have been on a very considerable scale. But in the early part of the present century it again fell off, and in 1827 had almost altogether ceased. At that time prices were high and the demand was strong, and Captain Cruikshank, then engaged in surveying northern Gujarát, was of opinion that by the help of a little special encouragement the people of Kaira might, especially in Petlád, be induced to grow indigo. The attempt failed, and indigo has never again become a product of any importance. This is to be regretted, as, when grown in rotation with other crops, indigo has the merit of leaving the land richer than it found it. The labour and capital required for its production, and the comparatively small profit it yields, are perhaps the chief reasons why indigo is now grown only to so very limited an extent. But another cause is at work. The preparation of the drug is accompanied by much loss of insect life, a result most distasteful to the Kanbi, and since the spread of the Svámi Náráyan sect to many of the Koli cultivators of Kaira. The small quantity now produced is grown in light or *gorát* soil. At the first fall of rain (June) the field should be ploughed more than once, and if possible manured. The seed is sown in drills from the *tarphan* or drill plough. After the plants have come up constant weeding is required. The crop reaches maturity in September, and in gathering the leaves great care must be taken that they are not exposed to wet. The dye is extracted, sometimes from the green leaves and sometimes from the dry. If green, the plants should be taken from the fields early in the morning, and laid in large wooden vats. The vat is then filled with water, and to keep the plants down heavy weights are placed across the top. During the night fermentation sets in. In the morning the water is drawn off into a second vat, where it is well worked with large sticks till it takes a deep blue colour. In this state the liquor is allowed to stand perfectly quiet till the next day. The water is then drawn off into a third vat, and the sediment in the second vat is taken out. It is then tied up tightly in bags and hung from the branches of trees. When dry, it is taken down,

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spread on the floor of a hut, and cut into cakes. The refuse indigo dregs, and also the plants, make very good manure.[1]

Poppy.

In 1876-77, 118 acres[2] were under Poppy, *afin*, Papaver somniferum. That the poppy is grown to so small an extent is due to the stringency of the rules regarding its production.[3] The light or medium variety is its favourite soil, and a field that has during the rainy season borne a crop of Indian millet is generally chosen. In November or December, after the crop has been removed, the ground is manured several times and watered. The seed called *khaskhas* is then sown broadcast. After the plants come up, the land is kept well weeded, and watered every ten days. When the plant is mature, the outer skin of the flower capsule is lightly slit, and the juice allowed to exude. After a day and a night the stem is scraped with a small knife, and the juice collected in earthen pots. The slitting may be repeated a second and a third time, in each case after an interval of three days.[4]

Hemp.

Bombay Hemp, *san*, Crotalaria juncea, was cultivated in 117 acres. Its seeds are said to be used as food for cattle, its stalks for fuel, and its fibres for ropes.

Sugarcane.

Sugarcane, *serdi*, Saccharum officinarum, has spread from 1787 acres in 1859-60 to 2216 acres in 1876-77. Kaira sugarcane is of two kinds, one black or dark-purple, the other white. Grown on rich light, *gorát* and medium, *besar* soils, it wants free manure and good water, and takes so much from the land, that a second crop cannot be planted till after an interval of four or five years. Though Kaira draws from Surat the greater part of its supply of molasses, no steps seem to have been taken to improve the local cultivation and manufacture of sugar.

Spices.

Of spices, Cumin, *jiru*, Cuminum cyminum, with in 1876-77, 1423 acres, is the chief variety grown in the district.

Silk.

In 1837, under Dr. Burn, the Civil Surgeon, a Government garden was established at Kaira. Besides in medicinal plants, such as senna and colocynth, experiments were made in the growth of mulberry trees and in the rearing of silk worms. To meet the charges of his experiments, Government sanctioned a sum of £40 (Rs. 400) and a monthly allowance that rose from £4 to £8 (Rs. 40-80). The mulberry trees grew well. In 1838 in the Government plantation on the banks of the Shedhi, near the Kaira bridge, were '800 trees of the St. Helena species all thriving uncommonly well.'

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[1] The average outturn per acre is estimated at forty-nine pounds of the prepared dye worth £7 8*s*. (Rs. 74), and seed worth 7*s*. (Rs. 3-8), £7 15*s*. (Rs. 77-8) in all. The cost of production and manufacture, including 14*s*. (Rs. 7) of rent, is estimated at £5 19*s*. (Rs. 59-8), being a profit of £1 16*s*. (Rs. 18.)

[2] Of the whole area, 106 acres were in Nadiád, 11 in Kapadvanj, and 1 in Thásra.

[3] Under the Opium Act (No. 1 of 1878) the cultivation of the poppy has been entirely prohibited. (See Rules published by the Government of Bombay on 30th March 1878.)

[4] The outturn of twelve pounds per acre is, including the value of the seed, estimated at £7 (Rs. 70); the cost of cultivation, including 10*s*. (Rs. 5) of rent, at £3 14*s*. (Rs. 37); and the peasant's profit at £3 6*s*. (Rs. 33).

They stood in rows about twelve feet apart with straight stems three to four feet high. They were manured with dry cowdung, and in the hot season watered two or three times a week. In 1840 Dr. Burn reported his plantation flourishing. It had fed 60,000 worms and some silk had been reeled. On account of this success allowances of 30*s.* (Rs. 15) a month each were granted to three Gujaráti youths to go and learn reeling under Signor Mutti, then employed by Government in the Deccan in silk culture. The Kaira experiments were continued for some years. In 1844 Dr. Thatcher, then in charge of the garden, reported that the mulberry trees, when small, suffered from the hot wind. In other respects they did well, growing both in hedges and as trees from nine to ten feet high. They wanted water at least once every twenty days. The worms were less successful. In ordinary seasons, during the greater part of the year they kept fairly healthy. But in 1843, a year of great heat, almost all died. Silk was made and forwarded to the Bombay Chamber of Commerce, who reported the samples of very good quality, equal to Canton No. 2, and worth 10*s.* a pound (Rs. 10 the *paka ser*). But the people of the district, chiefly, it was said, from their dislike to destroy the worms took no interest in the industry, and the garden was finally closed in 1847.[1]

Another Government attempt to improve cultivation was in 1843 the introduction of the American plough. Two were given on trial to cultivators. The result was disappointing. The men complained that the ploughs were clumsy, that the furrows were too wide, and that the work of levelling was much heavier than after ordinary ploughing. Besides they were too elaborate, costing more to mend than the Kaira plough to make. The Collector, Mr. Kirkland, was of opinion that their successful working implied both in artisans and ploughmen more skill than was to be found in Kaira.[2] In 1875 another attempt was made to introduce a better class of plough, this time of English make. Three ploughs were tried, one in Nadiád, one in Kaira, and one in Borsad. On the whole they gave satisfaction. The faults found were that the share was too long and made the work too heavy for one pair of bullocks, and that as the plough could not be guided with one hand to plough and drive, the bullocks required two men instead of one. The Collector, Mr. Sheppard, was of opinion that if the handles could be joined by a cross-piece the ploughs would become popular.[3] In December 1878 Mr. Robertson, the superintendent of the Madras Government Farm, visited Nadiád. He thought that the soil, among the best he had ever seen, was suffering from too shallow ploughing. Some ploughs were accordingly ordered from the Madras Government Farm and a skilled cultivator sent there to learn their use. Three lads belonging to large landowning *pátidár* families have also gone to Madras to be taught scientific farming under Mr. Robertson.

[1] Bom. Gov. Rev. Rec. 180 of 1847, 39-98.
[2] Collector to Government, 308, 23rd December 1844.
[3] Collector 2445, 6th December 1875.
[4] Kaira Agricultural Record (1879) published under the Collector's presidency by a committee of Nadiád landowners.

Chapter IV. Agriculture.

Cultivators.

In the rural parts of the district not only the strictly agricultural classes, Kanbis, Kolis, and Musalmáns, but the whole population including Bráhmans are engaged in cultivation. Only in large towns is there a regular class of artisans, washermen, tailors, blacksmiths, and others entirely supported by their callings, and even in towns many artisans are forced to eke out their gains by cultivation. Dheds and other weavers, though engaged at their looms in the fair season, during the rains devote their time to raising grain for the support of their families. The Vániás are, perhaps, the only class not directly engaged in the work of cultivation. By far the greater part of the land is tilled by Kanbis, chiefly of the Leva tribe, the most skilful and thrifty cultivators in Gujarát. Except the *talabda* or local Kolis nearly if not quite as good as Kanbis, Kolis as a class are bad and thriftless cultivators. Rajputs and Musalmáns hold a very small proportion of the land. The Rajputs are careless, unskilful, and addicted to the use of opium. The Musalmáns want energy and perseverance, and labour under the special disadvantage that their women do not help in the field.

Bad seasons.

The years between 1738 and 1746 and the season of 1751 are referred to as times of distress when village communities were broken and villages deserted.[1] The severest famine, of which details are available, was in 1790-91. Throughout the year rain fell only once. The people were forced to migrate to Málwa, and there attacked by a pestilence died in great numbers. The Gáikwár, except that he took a fourth share of the grass, is said to have remitted the whole revenue demand, and to have taken steps for the suppression of crime. During the scarcity, twelve and a half pounds of millet, sixteen of wheat, twenty-four of unhusked rice, and twenty of pulse, sold for two shillings. The next season of scarcity was 1813-14. Throughout the year there were only two falls of rain, one in July, the other about the middle of September. The local scarcity, itself very serious, was increased by the influx of starving people from Káthiáwár. Especially among these immigrants many deaths are said to have occurred. Food grains would seem in several cases to have been dearer than in 1790. The prices were, for two shillings, seventeen pounds of millet, seventeen and a quarter of Indian millet, ten of wheat, twenty of unhusked rice, and twenty-two and a half of pulse. 1824 was a year of distress, and in 1825 the later rains almost entirely failed. Much suffering was caused, and remissions of land revenue to the amount of £16,198 (Rs. 1,61,980) were granted. In 1834 locusts ate up the crops, a great scarcity arose, and many cattle were lost. Remissions amounting to £19,655 (Rs. 1,96,550) of land revenue were granted. In 1835 the rain was too heavy and the cold weather crops were spoiled by frost. The last forty-two years (1836-1877), though the rainfall has at times been scanty and the crops have partly failed, have passed without any season of famine or even of general scarcity.

[1] Bom. Gov. Sel., CXIV., 78, 515.

CHAPTER V.

CAPITAL.

According to the 1872 census returns, there were in that year, besides well-to-do cultivators and professional men, 6885 persons in positions implying the possession of capital. Of these 2072 were bankers, money-changers, and shop-keepers; 3343 were merchants and traders; and 1470 were supported by incomes derived from funded property, shares, annuities, and the like. In 1869-70, under the income tax returns, 3742 persons paid on yearly incomes of from £50 to £100 (Rs. 500-1000); 414 persons on incomes of from £100 to £200 (Rs. 1000-2000); 144 persons on incomes of from £200 to £1000 (Rs. 2000-10,000); and five on incomes of from £1000 to £10,000 (Rs. 10,000-1,00,000).

Investments.

Spending freely on their chief family festivities, the higher class of Hindus practise in every-day life the extremest thrift, living more cheaply and saving more steadily than the corresponding classes in Surat and Broach. Besides in hoarding either ornaments or coin, savings are invested in Government securities, in shares, in land, in houses, in trade, and in money-lending. Almost all in a position to save, invest part of their store in ornaments, plain solid bands of silver and gold with little or no outlay on the work. The practice of buying Government securities, and of putting money in savings banks, has during the last ten years spread considerably. The interest on Government securities has risen from £51 (Rs. 510) in 1865 to £255 (Rs. 2550) in 1877, and the deposits from £1612 (Rs. 16,120) to £13,021 (Rs. 1,30,210). Still in this respect Kaira is far behind Surat, where in 1877, the deposits amounted to £84,043 (Rs. 8,40,430) and the payment of interest on Government securities to the considerable sum of £8644 (Rs. 86,440). The purchase of shares seems to find little favour with the Kaira monied classes. Hardly any of the district merchants are believed to have invested money in the Bombay, Surat, or Ahmedabad factories, and even the Nadiád spinning company had no local shareholders. From the summary of the registration returns for 1867 and for 1874, it appears that though in the greater number of cases the purchasers of land are either cultivators or money-lenders, in both years in about one-fifth of the transfers, the buyers follow almost every calling, traders, craftsmen of all classes, servants, and beggars. Over most of the district the people take a pride in their houses and spend money in improving them. But, except town money-lenders, many of whom buy their debtors' dwellings, they do not invest their savings in house property. Besides bankers, merchants, and shop-keepers, well-to-do

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cultivators and pleaders invest their savings in trade. But it is in money-lending that the well-to-do in Kaira lay out almost all their capital.

Lenders.

Kaira money-lenders are of two classes, professional and non-professional. Among professional money-lenders, there is a marked difference between the banker or *nánávati*,[1] who, with a capital of £10,000 and upwards, negotiates bills of exchange, makes advances to persons of credit, and engages in large mercantile transactions, and the usurer or *tuniát*, who, doling out from a scanty store often borrowed from one of the larger money-lenders, preys on the needs of the poorest class of townsmen or the careless and unthrifty villager. Between these extremes the great body of professional money-lenders hold an ill-defined position. The banker, from smallness of capital, unsuccessful speculation, or changes in the course of trade, forced into petty dealings with low-class borrowers, has to resort to many of the usurer's practices; while the usurer, whose wealth enables him to enter into large dealings, gains by degrees a place among the district bankers.

Bankers live almost entirely in towns. They trade, negotiate bills of exchange, take deposits, and make advances. The banker's trade ventures are all wholesale; he lays in a store of grain to be re-sold to small dealers; he speculates in cotton, or he imports cloth from Bombay for local shop-keepers and retail traders. In his trading operations the Kaira banker is careful, risking in speculative investments only a small portion of his capital. The bills of exchange commonly negotiated are of eight kinds—payable at sight, *taratni hundi*; payable on the following day, *dinvaltáni hundi*; payable on the fourth day, *bhomni hundi*; payable on the eighth day, *chachárdáhádáni hundi*; payable on the eleventh day, *agiyárni hundi*; payable on the twenty-first day, *ekvisni hundi*; payable on the forty-fifth day, *pistálisni hundi*; and payable on the sixty-first day, *eksathi hundi*. Bills for the longest periods are generally drawn in the course of the Central Indian trade in opium and tobacco: those for twenty-one days, in connection with the trade to Kadi and Pátan in northern Gujarát, and those of eleven days sight on Bombay. As the stamp duty is higher on bills not payable at sight, the practice of granting bills payable at sight is said to be on the increase. The holder of a bill payable after a certain interval, may receive the money on presentation before the lapse of the period fixed. In such cases a monthly discount of from a half to one per cent is allowed. The money left in the hands of bankers chiefly belongs to Government servants, and childless old men and widows. Deposits of the latter class, varying in amount from £50 to £200 (Rs. 500-2000) are, for the most part, the proceeds of the sale or mortgage of property set aside by the owners to meet their funeral expenses. On such sums a small yearly interest of three or four per cent is paid. In advancing money high class bankers deal only with persons of credit, petty traders, retail shop-keepers, cultivators

[1] *Nánávati* literally means money-changer. The *tuniát* is also called *khándhápánjra-válo*, or man of instalments.

of substance, and usurers, who borrow to re-lend at higher rates of interest. Bankers who refuse to advance money except to persons of credit, beyond filing a suit in the civil court, seldom take any special steps for the recovery of their claims. Those, on the other hand, whose clients belong to the poorer class of borrowers, are forced to practise the usurer's elaborate system of dunning. The people are said generally to deal with one capitalist. But among the poorer class of cultivators, more than one creditor has frequently claims upon the same debtor. The crop of a poor cultivator is often the only property available for liquidating a debt. And so, in the harvest season, the money-lender is forced to pass some days in his debtor's fields, examining the crop and seeing that none of the produce is made away or handed over to a more favoured creditor. If a banker has several sons, the sons help their father as clerks and in collecting his debts. They are said seldom to take to any other calling, or to leave their native town to push business in distant places. The account books kept by a high class money-lender are the hand book, *háth-vahi*, a rough memorandum book; the cash book, *rojmel*; the ledger, *khátávahi*; the monthly account book, *ávaro*; the interest book, *viyájvahi*; and the bill book, *hundini nondh*. As a rule, the village shop-keeper keeps a cash book, *rojmel*, and an account current book, *thámkhátu*. The latter is often carelessly prepared, containing entries of transactions extending over years and of dealings with several distinct persons. Some village shop-keepers are said to keep no record of their transactions except bonds and promissory notes.

Most usurers are men of small capital varying from £200 to £1000 (Rs. 2000-10,000). But among them are some rich men with property, including claims of not less than £10,000 (Rs. 1,00,000). Unlike the banker, the usurer confines himself to making money advances, never negotiating bills of exchange or engaging in trade. Though, as a rule, he lives in a town, the usurer, especially during the harvest season, spends much of his time in the villages gathering in his debts. The son of a usurer generally succeeds to his father's business, though by enlarging his dealings and adding to his capital he may hope to rise to the position of a banker. In Kaira both bankers and usurers advance money on the security of gold and silver ornaments. There is, therefore, no room for the special class of pawn-brokers, *jansáu sáhukárs*, found in Surat.

Among non-professional money-lenders are traders and shop-keepers, rich cultivators, pleaders, Government servants, well-to-do artisans, and religious beggars, chiefly Gosáis of whom one is said to be worth about £10,000 (Rs. 1,00,000). Of the trading and shop-keeping money-lenders, the chief are cloth-sellers, grain-sellers, and grocers. In some of the larger towns are shop-keepers whose business makes them independent of money-lending. But, as a rule, especially in village shops, dealings in grain or cloth are useful, chiefly as a means of drawing the poorer class of villagers to borrow money. A poor village shop-keeper, his capital laid out in advances, passes his time in dunning his debtors. If rich, leaving his shop in

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charge of a clerk, he buys a town house, seldom visiting the village except during the rainy months when the poor press for grain advances, and at harvest time when he recovers his outstanding debts. The son of a village shop-keeper generally succeeds his father, and in many villages the shop has for generations been in the hands of the same family. If there are several sons and the family is poor, the younger brothers sometimes try to start business in a fresh village. Next to the shop-keeper, the most important of non-professional money-lenders is the rich cultivator or *pátidár*, who lends money and grain to the poorer villagers. The number of Government servants, pleaders, and well-to-do artisans, who lend money is small, and they generally deal only with a few men, and those of good credit.

Borrowers.

Borrowers are of four classes, landed gentry, small traders, artisans, and cultivators. Among landed gentry, the Musalmáns, Kolis and Rajputs are in their ways so careless and unthrifty, that many of them have allowed themselves to sink deep in debt. So unsatisfactory had their condition become, that in 1877 Government passed an Act (XIV. of 1877) for the settlement of the claims against them. In most parts of the district the artisans are, on the whole, better off than either the small traders or the mass of the cultivators. Unlike the trader, the artisan need keep no large stock of goods, while, compared with the cultivator, as he is generally a member of a much smaller community he spends little on caste feasts. Cultivators form the largest and most important class of borrowers, seeking loans either to pay the Government rent or to meet special family expenses. At the time of the introduction of British rule and for more than thirty years after, the whole land revenue of the district was generally collected from bankers or money-lenders, who recovered what they could from the cultivators.[1] In 1840 so widely was this system spread, that the Collector reported, that of a total revenue of £146,371 (Rs. 14,63,710), only £38,091 (Rs. 3,80,910) or 26·2 per cent, were received direct from the cultivators. Up to the year 1856 little improvement would seem to have taken place. At that time[2] it was said to be a matter of notoriety, that, speaking generally, all the cultivators and holders of land in Gujarát were in debt to such an extent that they had no means of extricating themselves from their difficulties. A few years later (1857-1864) the very high price of field produce and labour freed from debt almost the whole agricultural population. But the decline of prices that set in about 1870 crippled a large number of the careless and improvident. In 1874 the state of the district was said to be far from satisfactory; the money-lenders, tired of waiting for more favourable times, had ceased to give credit and crowded the civil courts.[3] Since then the high produce prices of the last two years have done much to improve the cultivators' credit.

Interest.

In 1827 interest was limited by law to a yearly rate of twelve per

[1] Mr. Diggle's report of 1806, and the Collector's report 309, 23rd December 1844. The practice was for each headman to give a note for his village. These notes were convertible in July at Ahmedabad and Baroda, and had to be negotiated by agents specially chosen by Government.
Rás Mála, II. 248.

[3] Collector 1207, 13th July 1874.

Interest.

cent.[1] This provision was easily evaded, and in 1840, creditors would seem to have been in a position, by making deductions, *mandámni*, from the amount actually advanced, to recover from the most needy of their debtors from one to six per cent additional profit.[2] In 1856, according to Mr. Forbes, monthly interest was stipulated for at two per cent, or if the terms were unusually moderate, at one.[3] At present (1877), according to the returns received, in small transactions when an article is given in pawn, artisans and well-to-do cultivators pay interest at yearly rates varying from six to nine per cent; the charge in the case of the poorer cultivators rising to twelve per cent. In such transactions, if personal security only is given, the corresponding yearly rates are said to vary from nine to twelve per cent for the richer, rising as high as twenty per cent for the poorer class of borrowers. In large transactions, well-to-do cultivators who give jewels as security, pay yearly rates of from three to four and a half per cent. When cattle or other moveable property is pledged by the poorer cultivators yearly interest is charged at from nine to eighteen per cent. When land is mortgaged the yearly rates are reported to vary from six to eighteen per cent. Except in Umreth and Borsad, where interest on personal security is unusually high, there would seem to be but little variety in the rates charged in different parts of the district. These are the nominal rates of interest. But in almost all cases, especially when the borrower is poor, by levying a premium or *mandámni*, the lender adds from one to six per cent to his profits. Six per cent per annum is said to be generally considered a fair return for money invested in buying land, the estimates varying from four and a half per cent in Mehmadabad to seven and a half per cent in Umreth. Besides what they make by interest and premiums, money-lenders are said to add to their gains by irregular and unfair means. Serious and wilful fraud is rare. But the cultivator's ignorance and apathy give the money-lender much opportunity for sharp practice.

Grain advances.

Except occasionally for seed, only Musalmáns, Kolis, and other unthrifty and unskilled cultivators borrow grain. The advance is generally made in the beginning of the rains and repaid after six months at harvest time. For this the ordinary charge is one-quarter in addition to the quantity received. The payment is almost always in kind. If in money, from twenty-five to thirty-six per cent interest is generally recovered. But higher rates, half as much again, or even twice the original amount are said sometimes to be charged.

Currency.

In 1806, so scanty was the stock of money, that it was usual for weavers and cultivators to barter their wares. At the same time there were in circulation no fewer than six varieties of coin, the Surat rupee, the Sicca rupee, the Baroda rupee, the Asásai rupee at par with the Baroda, the Cambay rupee, and a rupee coined in Kaira and known by the name of *jina* or the small rupee. At present (1877), except in the case of payments of the land assessment, the British currency is

[1] Regulation V. of 1827, chap. III. [2] Collector, 819, 8th October 1840.
[3] Rás Mála, II., 250.

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not in general use. The medium in ordinary dealings is the Baroda or *bábáshái* rupee, varying in value, but generally about fourteen per cent below the standard. These variations in value, the money-lender in his dealings with the poorer class of borrowers, generally turns to his own advantage.

Bankruptcy.

Among the bankers and traders of the Kaira district cases of bankruptcy are rare. Failure to meet trade engagements is considered disgraceful, and is said to be visited with social penalties but little less stringent than those enforced in the case of a breach of caste rules. The religious feeling that connects a man's condition in the next world with the discharge of all claims against him at the time of his death, is strong in this district, and the duty of paying an ancestral debt is said to be evaded only in cases of extreme helplessness or hopeless poverty. In small cities and towns, the amount of property owned by a banker or merchant and the extent of his trade liabilities are pretty well known, and it is comparatively easy to decide how far in any case failure is due to fraud or carelessness, and how far to bad fortune. When a trader finds that he cannot meet his liabilities, he calls his creditors, shows them how things stand, and leaves himself in their hands. After inquiry, the creditors, in proportion to their claims, divide the assets. When such a partition has been made, no further steps are ordinarily taken. Unless he has been shown to have acted unfairly, the discharged bankrupt will probably find little difficulty in raising money enough to help him to make a fresh start. Among shop-keepers, except the risk of fire, flood, or robbers, there is little chance of any very heavy loss, and bankruptcy is almost unknown.

Mortgages.

Mortgages are of two kinds, *sán*, when the land is pledged as security but the mortgagor remains in possession, and *giro*, when the mortgagee takes possession of the land instead of interest. According to the registration returns, mortgages in excess of £10 (Rs. 100) have fallen from 3035, of the value of £124,396 (Rs. 12,43,960) in 1869-70, to 1707, of the value of £64,158 (Rs. 6,41,580) in 1876-77.[1]

Wages.

Under Marátha rule bricklayers, carpenters, blacksmiths, and day-labourers were forced to work for the men in power receiving some grain at harvest, but seldom any money payment.[2] Fifty years ago (1828) a town labourer earned 3*d.* (2 annas) a day, and a carpenter 6*d.* (4 annas). In 1844 a town labourer earned the same wage as in 1828; a field labourer was, as formerly, paid in kind from three to five pounds of millet, *bájri*, a day; a bricklayer earned from 6*d.* to 9*d.* (4-6 annas); and a carpenter from 9*d.* to 1*s.* (6-8 annas). Between 1858 and 1864, when the Bombay, Baroda, and Central India Railway line was under construction, and house-building was carried on to a large extent over the whole district, the demand for labour increased and the rates rose by about one-half. At present

[1] The details are, in 1869-70, 3035, value £124,396; in 1870-71, 2716, value £109,201; in 1871-72, 2626, value £95,576; in 1872-73, 2507, value £99,905; in 1873-74, 2453, value £104,637; in 1874-75, 1789, value £73,785; in 1875-76, 1685, value £72,906; in 1876-77, 1707, value £64,158.

[2] Mr. Kirkland, 308, 23rd December 1814.

Wages.

(1878) a labourer's daily wage varies from 3*d.* to 6*d.* (2-4 annas) according to the urgency of the work. Besides his ordinary wage of from 3*d.* to 4½*d.* (2-3 annas), which is paid in money, a field labourer gets two or three millet cakes at midday. Except in the rains, when labour is wanted for weeding and transplanting, the supply of labour from among Kolis, Káchhiás, poor Kanbis, Vághris and Dheds, is in excess of the demand. Town labourers, except for an hour's rest at midday, work from eight or nine in the morning to five or six in the evening; field labourers go to work about six in the morning and remain till about six in the evening, taking at midday an hour's rest. Thirty years ago a labourer had almost no credit; now he would, without security, be trusted with an advance of from £1 10*s.* to £2 (Rs. 15-20). Except the Lundás or hereditary servants in the households of well-to-do Rajputs, who like the Surat Hális are fed and clothed by their masters, there are no hereditary labourers in the district. In a few sub-divisions the practice of mortgaging labour prevails. The mortgagors, generally poor field labourers, for money advances of from £2 to £2 10*s.* (Rs. 20-25), pledge their labour for terms rising to one year. During their time of service they are fed and clothed and well treated by their masters. Carpenter's and bricklayer's wages vary in the different seasons, the demand being strongest in the hot months, when the cultivators repair and build houses. At present a bricklayer's daily wage varies from 6*d.* to 9*d.* (4-6 annas); and a carpenter's from 1*s.* to 1*s.* 3*d.* (8-10 annas). They go to work at about nine in the morning and return before sunset. One-third of an ordinary day's wage is paid for extra work done in the morning from six to nine. In villages, besides two pounds of millet, *bájri*, and a quarter of a pound of clarified butter, *ghi*, a day, a carpenter's monthly wage is £1 2*s.* (Rs. 11), and a bricklayer's 12*s.* (Rs. 6). For miscellaneous work, such as repairing field tools, village artisans are every year, at harvest time, paid in grain.

Prices.

A statement of produce prices, reaching back as far as 1790, is given below. For the first thirty-four years the figures refer only to one portion of the district, the Mátar sub-division. Since 1824 they are supposed to represent average prices over the whole district. Taking the staple grain, millet or *bájri*, the average rupee price during the whole period of eighty-eight years is fifty-one pounds, or excluding seven years of abnormally high and five years of abnormally low prices, an average of fifty pounds. The seven years of highest prices were fifteen pounds in 1812 and 1864; seventeen pounds in 1877; eighteen pounds in 1790; nineteen pounds in 1863; and twenty pounds in 1813 and 1869. The years 1863, 1864, and 1869, when the high value of millet was due to the cheapness of money rather than the want of grain, were the times of greatest agricultural prosperity. 1790, 1812, 1813, and 1877 were years of famine or scarcity. The cheap years, of which there have been five, eighty-two pounds in 1856, eighty-four in 1855, eighty-five in 1848, 100 in 1831, and 120 in 1832, have been times of complaint and agricultural distress. Excluding the years of special scarcity, the whole series may be roughly divided into eight periods. From 1791 to 1799, a time of cheap grain, with an average price of sixty-nine pounds; from

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1800 to 1811, a time of moderate and most steady prices scarcely varying from fifty-five pounds; then, after the scarcity in 1812 and 1813, five years (1814-1818) of moderate prices varying from forty-six to sixty-five and averaging fifty-nine pounds. Again, after the scarcity in 1819, follow seven dear years (1820-1826), prices varying from thirty-eight to forty-five and averaging forty-one pounds. Next, for six years (1827-1832), a rapid fall in prices ranging from fifty-eight in 1827 to 120 in 1832 and averaging eighty-two pounds. Then ten dear and changeable years (1833 to 1842), prices varying from thirty to sixty and averaging forty-six pounds. Then sixteen years (1843-1858) of low prices varying from fifty-two to eighty-five and averaging sixty-six pounds; and lastly, eighteen years (1859-1876) of high prices varying from fifteen to fifty-two and averaging thirty pounds.

Kaira produce prices, 1790-1877.

Produce.	Scarcity.	First Period (1791—1799.)								Second Period (1800—1811.)					
	1790.	1791.	1792.	1793.	1794.	1795.	1796.	1797.	1798.	1799.	1800.	1801.	1802.	1803.	1804.	1805.
Millet ...	18	36	50	59	62	66	83	90	79	70	55	55	54	54	55	56
Indian do....	22	46	64	73	80	90	90	80	80	80	74	75	75	80	80	75
Wheat ...	16	32	45	51	46	60	85	86	70	60	55	55	55	55	54	56
Rice ...	22	40	50	60	62	65	68	69	69	69	65	65	65	69	68	65
Pulse ...	19	36	46	54	55	58	60	65	65	65	60	58	60	60	61	60

Produce.	Second Period (1800-1811) —*continued.*						Scarcity.		Third Period (1814-1818.)					Scarcity.	Fourth Period (1820-1826.)			
	1806.	1807.	1808.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	1818.	1819.	1820.	1821.	1822.	1823.
Millet ...	58	55	54	53	55	60	15	20	46	62	64	58	65	30	40	40	43	38
Indian do....	75	80	75	80	75	70	22	27	55	81	75	72	72	38	55	59	62	60
Wheat ...	57	54	55	55	55	50	14	20	43	35	41	54	57	27	38	40	49	45
Rice ...	69	65	69	65	65	56	22	28	45	61	66	61	63	47	52	51	85	80
Pulse ...	60	58	57	55	60	60	14	21	48	48	51	51	51	36	60	62	62	64

Produce.	Fourth Period (1820-1826) —*continued.*			Fifth Period (1827-1832.)						Sixth Period (1833-1842.)								
	1824.	1825.	1826.	1827.	1828.	1829.	1830.	1831.	1832.	1833.	1834.	1835.	1836.	1837.	1838.	1839.	1840.	1841.	1842.
Millet ...	38	40	45	58	65	81	70	100	120	60	30	35	46	50	47	36	52	52	57
Indian do. ..	60	58	60	70	80	56	80	130	160	80	35	65	60	75	70	55	55	60	71
Wheat ...	50	50	37	55	57	65	75	75	85	73	27	47	48	55	50	38	35	52	65
Rice ...	50	50	48	48	48	44	42	42	42	42	40	40	40	40	40	40	38	38	40
Pulse ...	42	40	40	40	50	55	63	50	78	50	18	20	56	60	45	54	32	45	55
Tobacco ...	27	27	27	27	32	32	30	27	27	30	27	32	27	30	27	27	27	27	27

Produce.	Seventh Period (1843-1858.)															Eighth Period (1859-1876.)	
	1843.	1844.	1845.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.
Millet ...	62	68	71	55	55	85	65	65	62	70	69	60	84	82	58	52	50	43
Indian do.	82	92	80	68	80	95	80	70	90	102	80	80	100	100	80	64	66	50
Wheat ...	65	75	77	38	60	65	55	45	73	70	63	50	64	64	52	50	50	37
Rice	40	38	40	40	40	38	38	36	38	38	36	36	46	54	46	42	30	24
Pulse ...	60	60	50	48	60	60	54	50	50	53	45	40	52	64	56	54	54	40
Tobacco ..	24	31	27	25	25	25	27	28	30	27	27	27	18	20	20	18	14	16

Produce.	Eighth Period (1858-1876)—*continued.*															Scarcity.
	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.
Millet ...	40	40	19	15	23	32	24	29	20	21	23	30	34	46	48	40	17
Indian do. ...	50	50	38	13	22	33	25	29	15	22	29	29	37	56	60	48	..
Wheat ...	38	40	18	11	11	15	18	16	14	15	20	22	22	26	24	25	16
Rice	24	26	20	11	9	10	11	10	10	13	18	20	26	25	20	18	15
Pulse ..	32	24	22	12	9	13	16	16	12	15	27	.	23	26	29	43	13
Tobacco ..	16	14	10	...	...	..	...	...	..	...	..	...	..	..	...	...	..

This statement is prepared—i, from the Collector's Report 48, 31st January 1855, containing information for the years from 1790 to 1823; ii, from the Collector's special return containing figures for the years from 1824 to 1863, prepared for the price committee of 1863; iii, from a special return prepared in the Bombay Secretariat for the years from 1864 to 1874; iv, from the Administration Reports for 1875, 1876, and 1877. Millet is *bájri*, Penicillaria spicata; Indian millet, *juvár*, Sorghum vulgare; and pulse, *tuver*, Cajanus indicus.

Weights.

Almost all articles are sold by weight. Except for milk and clarified butter, no measures of capacity are used. The weights are of two sorts: one for gold, silver, and drugs; the other for grain, vegetables, and the cheaper metals, copper, brass, iron, lead, and zinc. The former, square in shape are by village goldsmiths, made of lead and sometimes of an alloy of brass and copper; the latter are made of iron by blacksmiths. Both are, under the Weights and Measures Act (Act X. of 1872), yearly inspected and stamped by the police. Gold, silver, and drugs are weighed according to the following scale: six *chokhás*, grains of rice, one *rati*; three *ratis*, one *vál*; sixteen *váls*, one *gadiáno*; two *gadiánás*, one *tolo*. Again, eight *ratis* make one *máso*; and twelve *másás*, one *tolo*. For metals other than gold and silver, and grain of all sorts, the following table is current: two and half rupees, one *adhol*; two *adhols*, one *navták*; two *navtáks*, one *páser*; two *pásers*, one *achher*; two *achhers*, one *ser*; forty *sers*, one *man*; sixteen *mans*, one *kalsi*; two *kalsis*, one *bediyu*. In the Panch Mahál, the following table is also in use: twelve *mans*, one *mani*; 100 *manis*, one *manása*; 100 *manásás*, one *kanása*. As the *ser* in use is equal to forty *tolás* each of 180 Troy grains, the weight of a *man* is equal to 41⅓ English pounds avoirdupois.

Measures.

Cloth is measured either by the *gaj* or the *háth*. The *gaj*, made of iron, brass, or wood, is of two kinds, the tailor's *gaj* 27½ inches, and the ordinary *gaj* two feet long. Both are divided into twenty-four equal parts called *tasus*. The ordinary *gaj* is used in measuring cotton and silk goods. Turbans, waistcloths, *dhotiás*, women's robes, *sádis*, and such other articles as are sold in pairs or singly, but never in parts, are not measured by the *gaj*, but by the *háth*. A

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háth, the distance from the elbow to the tip of the middle finger of a tall man, varies from seventeen to nineteen and half inches. It is the measure commonly used by the poorer classes. The *háth* table is twelve *ánglis*, finger breadths, one *vehet*; and two *vehets*, one *háth*. The *gaj* and the English yard, the latter generally used by cloth merchants, are inspected and stamped by the police.

In measuring land, since the introduction of the revenue survey, an acre of 43,560 square feet has been substituted for the *bigha*. The acre is divided into forty *gunthás*, and the *gunthá* into sixteen *ánnás*. The *bigha*, equal to $\frac{1}{8}\frac{7}{0}$th part of an acre,[1] was formerly the unit of land measure, and is still generally understood by the people. It was divided into twenty *rasás*, and the *vasa* into twenty *visvásis*. A *visvási*, also called a *káthi*, equalling five *háths* of from 18·33 to 19·67 inches each, has a mean length of about ninety-six inches. Building sites are measured by the *gaj*, and land used for agricultural purposes, by a chain thirty-three feet in length.

Stones are sold by a superficial *gaj* of twenty-four inches, and not by a cubic *gaj*. The price per *gaj* varies according to the nature of the work.

In the case of timber, a *gaj* of twenty-seven inches is used. This *gaj* is divided into twenty equal parts called *vasás*, and each *vasa* into twenty equal parts called *visvásis*. A piece of timber is measured lengthwise. As it is seldom of uniform thickness, the circumference at the middle of the length is taken. This measure is divided by four, and the quotient is squared. The result thus obtained is multiplied by the length measure and the product divided by 400. This last quotient gives the cubic contents in *gaj*; the remainder in connection with this quotient, when multiplied by twenty and divided by 400, gives the measure in *vasás*; and the remainder in this last case, multiplied by twenty and divided by 400, gives the measure in *visvásis*. Thus the required measure is determined in *gaj*, *vasa*, and *visvásis*, and the sale price is fixed at so much per *gaj*. The unit of measurement used in earth work and mud walls is the *háth*.

Milk, and sometimes clarified butter, are the only articles sold by capacity measures. The capacity measures used are brass cups called *áphkhorás*. The contents of a one *ser áphkhora* are equal to 25·52 cubic inches. Clarified butter as a rule sold by weight, is among the poorer classes weighed in special capacity measures made by the wandering tribe of Thoris.

Bricks, tiles, bamboos, rafters, poles, fruit, and betel leaves are sold by the number. Bricks and tiles are sold by the thousand, which, from the practice of putting aside one brick or tile to mark each hundred, actually numbers 1010. Rafters and cocoanuts are sold by the score, the score of rafters containing twenty-two.

Grass is sold by the thousand, and millet straw, *kadbi*, by the hundred bundles. In Kaira, a hundred bundles of *kadbi* mean 105, one being added for each twenty bundles. In the case of grass, 147

[1] Two Kaira *bighás* are equal to one acre and seven *gunthás*.

Measures.

bundles are given for every hundred. This is called a full or *paka* hundred, compared with the small or *kacha* hundred of 105 only. A *man* generally contains forty *sers*. Sometimes, though the practice is growing rare, in wholesale purchases grocers allow from two to five *sers* extra. In the case of molasses, *gol*, and sugar, from two to eight *sers* are allowed for the weight of the coverings.

Precious stones.

As there are no regular shops for selling pearls and precious stones, the weights are but little understood. All purchases are made at Ahmedabad, Baroda, Surat, or Bombay.

The table for measuring time is sixty *vipals* or winks, one *pal*; sixty *pals*, one *ghadi* of twenty-four minutes; 2¼ *ghadis*, one *hora*; 3¾ *ghadis*, one *choghdi*; 7½ *ghadis*, one *pohor*; four *pohors*, one *divas*; seven *divas*, one *athavádiya*; two *athavádiyás*, one *paksh*; two *paksh*, one month; twelve months, one year. In former times the Hindus had neither watches nor sun-dials. Their time measure was the water clock, and this, though in ordinary life never referred to, is still used at marriage and thread ceremonies. Besides by the water clock time was calculated by the length of shadows. One plan was, in an open sunlit spot, to measure in feet the length of one's shadow; to add six to the number and divide 121 by the sum. The quotient gives the time in *ghadis* of twenty-four minutes, after sunrise, if the sun has not crossed the meridian, and before sunset, if the sun has crossed the meridian. Another plan is to hold upright a thin rod eighteen *ánglis* long, bend it so that its shadow will touch the other end of the rod on the ground, and measure in *ánglis* the perpendicular height of the rod. This, like the other plan, shows the number of *ghadis* either after sunrise or before sunset.

CHAPTER VI.

TRADE.

Chapter VI. Trade.

Roads, 1844.

In 1844, except from the south gate of Kaira town to the wooden bridge on the Shedhi river near Ratanpur village, a distance of about a mile, there were no made roads of any kind. The district highways and crossways were principally formed from cart tracks, and though in some places uneven and narrow, they were on the whole pretty good. The sandiness of the soil made them somewhat heavy for carts, and in the rainy season they were partially flooded. But a few days of fair weather again made them passable. The paths between villages were worse. Exceedingly narrow, they were in some places so overhung with bushes and branches as to make it difficult for carts and horsemen to pass.[1] Until 1863 little was done to improve the state of the roads. In that year the survey superintendent spoke of the roads as ordinary cart tracks execrable in the black soil, and in the light, though on the whole tolerable, in places as bad as roads could be, running through a deep sandy soil trying to man and beast and destructive to wheeled vehicles of any kind. In 1863 the local fund cess was first levied, and since then steady progress has been made in clearing and metalling roads.

1878.

There are at present (1878) six main lines of road extending with their branches over a total distance of 100 miles. Of these fifty-one have been and twenty-one are (1878) being metalled with stone or nodular limestone. Except a few large rivers, watercourses are bridged throughout. Of the two parts into which the Bombay and Baroda Railway divides the district, that to the north-east, the larger of the two, contains two principal roads. These from Kapadvanj in the north, start southwards, one running a little to the west to meet the railway at Nadiád, and the other a little to the east to reach the Páli railway at Dákor. The Nadiád feeder, twenty-seven miles long, is an embanked, bridged, and unmetalled line. Besides the ordinary local trade, a good deal of traffic is carried by this route in connection with the Sámláji fair in the Mahi Kántha. The Dákor feeder, twenty miles long, is a stone metalled road. In the south-west of the district towards the south, a railway feeder, eleven miles long, connects Borsad with the Vásad station. This road, bridged and metalled with nodular limestone, is passable all the year round. To the west, a line of seven miles runs from the railway station at Mehmadabad to the district head-

[1] Collector 308, 23rd December 1844.

quarter station at Kaira. This is a bridged, drained, and limestone metalled road. Beyond Kaira it is continued twelve miles south-west to the Sábarmati, and is partially bridged and metalled. From Mátar start two roads, one six miles to Kaira on the north, and the other thirteen to the Nadiád station on the east. These lines are at present being metalled.

Rest-houses.

Of six buildings for the accommodation of district officers, one at Kaira and the other at Láli, on the country track between Kaira and Ahmedabad, are in the Mehmadabad sub-division; one at Nadiád, about two miles from the Nadiád railway station, in the Nadiád sub-division; one at Vásad in the A'nand sub-division; one at Dehván in the Borsad sub-division; and one at Kapadvanj in the Kapadvanj sub-division. For the convenience of travellers, the district is provided with ten rest-houses or *dharmsháláś* built since 1869 from local funds at a total cost of £6191 (Rs. 61,910). Of the ten rest-houses, one at Lasundra, near the Dákor and Kapadvanj road, is in the Kapadvanj sub-division; one at Thásra, and the other at Páli, both on the Dákor and Godhra road, in the Thásra sub-division; one at Náika, one at Shikoldi, and a third at Mehlaj, in the Mátar sub-division; one at Kanij, and the other at Samádra on the Kaira and Ahmedabad country track, in the Mehmadabad sub-division; and one at A'nand near the A'nand railway station, and the other at Vásad near the Vásad railway station, in the A'nand sub-division. The rest-house at A'nand which for building purposes received in addition to the local funds grant a contribution from a Bombay merchant, Mr. Premchand Ráichand, has an upper room for Europeans and separate quarters for Hindus, Pársis, and Musalmáns. Those in the Thásra sub-division, besides quarters for all ordinary travellers, have separate accommodation for Europeans. The remaining houses are fitted only for ordinary native travellers. Besides the above, almost every large village has a rest-house with room enough for about ten or twelve native travellers.

Ferries.

Besides at many places during the rainy season and at times of flood, two ferries maintained from local funds ply across the Mahi. Of these one between Rálaj of Borsad and Kávi of Jambusar in the Broach district is permanent, and the other between Páli of Thásra and Gotra of the Godhra sub-division of the Panch Máháls works only during the rainy season. In the year 1876-77 these ferries were farmed for £33 (Rs. 330). Of this amount £15 (Rs. 150), on account of the ferry at Páli, were credited in equal proportions to the Kaira and Panch Mahál local funds.

Bridges.

Near the town of Kaira between the cantonment and the church the river Vátrak with banks about thirty feet high is crossed by a handsome wooden bridge 250 feet long supported by fourteen pairs of iron pillars coupled with a screw clamp.

About[1] a mile and a quarter south of the Vásad station the rail-

[1] Contributed by H. B. Hargrave, Esq., Resident Engineer, Bombay and Baroda Railway.

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way passes over the river Mahi. At the crossing the river banks are from eighty to ninety feet high and the river bed about 4000 feet broad. The bridge was opened for traffic on the 3rd September 1862. Originally it had twenty-seven spans of Warren's girders 62′ 6″, each supported on three vertical columns of Mitchell's screw piles 2′ 6″ outside diameter, the metal being 1″ thick. In addition to the above, two stout columns were attached one on the down side and one on the up side of each pier. For the reasons stated in the account of the Narbada bridge[1] these stout columns were afterwards removed and replaced by vertical columns connected by a heavy cross girder on the top similar to those in use at the Narbada bridge. The foundation of the bridge is at its deepest point sunk about fifty feet below ground and 127 below rail level. The rail is carried on the top instead of as in the Narbada and other viaducts at the bottom of the girders. On the 3rd of August 1871 the river rose within twenty-four feet of rail level, sixty-two feet above the bed of the stream. One of the up stream columns was broken by drift timber, but the remaining four columns of the pier were strong enough to hold up the bridge and keep the line open.

Post offices.

For postal purposes the Kaira district forms a part of the Gujarát postal division, and contains thirteen post offices located at the following stations: Kaira, Mátar, Cambay, A'nand, Borsad, Vásad, Nadiád, Mehmadabad, Mahudha, Kapadvanj, Thásra, Umreth, and Dákor. These offices are supervised by the inspector of post offices in the Gujarát division, assisted by the sub-inspector of the Kaira district and the Rewa Kántha states. Except at Kaira and Vásad, the officials in charge of post offices are styled deputy postmasters and are paid yearly salaries varying from £18 to £60 (Rs. 180-600) and averaging £37 12*s.* 9*d.* (Rs. 376-6-0). The official at Vásad, styled a post *kárkun*, draws an annual salary of £14 (Rs. 140). As the Kaira town station is the disbursing office of the district, the officer in charge is styled postmaster and draws a yearly salary of £90 rising to £114 (Rs. 900-1140). From the stations mentioned above letters are distributed by delivery peons or by post runners. For this additional work the latter are paid a trifling gratuity. The correspondence for surrounding villages is delivered by rural messengers who also bring into the stations letters posted in letter-boxes placed at most of the villages. The rural messengers carry with them a stock of postage stamps for sale at the villages they visit. In the Kaira district there are in all seventeen delivery peons on yearly salaries ranging from £9 12*s.* to £12 (Rs. 96-120) and averaging £9 17*s.* 7½*d.* (Rs. 98-13-0). The pay of the rural messengers, of whom there are eighteen, varies from £9 12*s.* to £12 (Rs. 96-120) a year and averages £11 (Rs. 110). This staff of men is distributed according to requirements, letters being delivered in some places daily, and in others only once a week.

Telegraph.

The only telegraph offices are those at the different railway stations.

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[1] Bombay Gazetteer. II., 419.

Though in early times Kaira did not contain any very important centre of trade, many favourite lines of traffic passed through it.[1] North and south, pretty much along the present main line of railway passed the trade between Ahmedabad and Baroda, Broach, and Surat; another line lay from the port of Tankári in Broach through Dehván, Petlád, and Kaira to Ahmedabad; a third was from Cambay through Sojitra and Kaira to Ahmedabad. Lines also passed from the Gujarát ports north-east through Dákor and Kapadvanj to Málwa and Mewár, and east through Dholka, Kaira, and Nadiád. Judging from the small revenue from transit dues £3630 (Rs. 36,300), the trade of the district at the time of its transfer to the British (1803) must have been scanty.[2] In 1821 the consumption of imported articles is said to have been very small.[3] In 1826 the manufactures of the district were valued at £166,326 (Rs. 16,63,260) and its trade at £443,594 (Rs. 44,35,940). Of the total amount of trade, merchandise valued at £95,000 (Rs. 9,50,000), was returned as imported for consumption in the district, and property worth £348,594 (Rs. 34,85,940) as in transit from Cambay to Central India and other foreign territory.[4] In 1841 the chief articles of trade between Surat and Ahmedabad were silk raw and manufactured, cotton piece goods, gold thread, country paper, metal articles, wheat, and coriander seed; through Kaira to the Panch Mahálsand Málwa, and to Dongarpur and Mewár, cumin seed, cardamoms, bishopsweed, betelnut, brimstone, camphor, coffee, cocoanuts without shells, cotton, dry ginger, gum, iron, indigo, catechu, and lace; from Jambusar and Tankári, through Dehván to Ahmedabad, long pepper, perfumes, dammer, soft sugar, sago, saltpetre, soap, cloves, cinnamon, and mace; from Cambay, black pepper, pearls, horses, charcoal, alum, tea, assafœtida, tobacco, sugarcandy, and molasses; and from Dholera, sandalwood, candles, tamarind, and rosewater.[5] In 1855, in consequence of the exorbitant customs duties levied by the Nawáb of Cambay and also by the Gáikwár, the district trade, both in exports and imports, took, instead of the straight road to Cambay, a circuitous course either to Dholera in Ahmedabad or Dehgám in Broach. The chief articles of export were grain to Baroda; safflower to different Gujarát ports; tobacco to Málwa; cumin seed, aniseed, soap, and glass bangles to Bombay; and clarified butter to Surat. The chief articles of import were wheat, morinda roots or *soranji*, cotton, and cloth from Málwa; and sugar, spices, cocoanuts, metals, European piece goods,[6] glassware, paper, jewellery, and dates from Bombay. Shortly after 1855 the trade of

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Land trade.

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[1] East India Papers, III., 686.

[2] Of the whole amount Nadiád yielded £2100, Mátar £630, Mahudha £600, Kaira £200, and Nápád £100.—Bom. Gov. Sel., XXXIX., 27. As there are no means of fixing the percentage charge of transit dues, these returns are necessarily vague.

[3] Captain Robertson, 10th October 1819.—Bom. Gov. Rev. Rec. 149 of 1820, 436.

[4] Mr. Williamson's report, 1826. Trade with the interior was at that time much burdened by transit dues. In 1825, a year of scarcity in Gujarát, wheat was selling at twenty-seven pounds the rupee in Málwa and at nine in Baroda.—Heb. Nar., II., 79.

[5] Mr. Kirkland, 343, 3rd November 1841.

[6] European cloth was in more general use than formerly. It was worn by the higher classes including the *pátidárs*. Kanbis, Kolis, and the other working classes still wore coarse country cloth.—Collector 48-A, 31st January 1855.

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the district would seem to have greatly increased. In 1861 at Kapadvanj, during the whole fair season, immense caravans were said to halt regularly on their way between Ahmedabad and Central India. Large quantities of tobacco grown in Nadiád, Petlád, and Borsad, came to the Kapadvanj merchants to be sent to Málwa and Márwár, and piece goods, hardware, country manufactured cotton and silk robes, turbans, glass, soap, bangles, and many other articles were very largely exported from Kapadvanj to the Gáikwár's territories, the Mahi Kántha, the Panch Mahál, the Bálásinor country, and Central India. In 1861-62 the imports of the Kapadvanj sub-division were valued at £30,285 (Rs. 3,02,850) and the exports at £25,420 (Rs. 2,54,200).[1]

Railway traffic, 1868-1877.

Besides by improved roads, land traffic has been aided by the construction of a line of railway, that with a total length of forty miles runs through the whole breadth of the district north-east and south-west. This line finished in 1863 has, beginning with the south, six stations, Vásad, Návli, A'nand, Boriávi, Nadiád, and Mehmadabad. From the A'nand station a line locally known as the Dákor branch runs north-east for a distance of thirty-two miles. This branch finished in 1874 has five stations, beginning from the west, Bhálaj, Umreth, Dákor, Thásra, and Páli. Traffic figures for the main line stations are available since 1868. From these returns it would seem that though compared with the earliest year, there is at present a considerable advance, the traffic was somewhat on the decline in passengers between 1871 and 1873, and in goods during 1871 and 1872. Since its opening in 1874, the increase in traffic on the Dákor branch has been much more rapid than on the main line. In 1874 the Dákor branch had twenty-eight per cent of the total passenger and nineteen per cent of the total goods traffic; in 1875, both in passengers and goods, its share rose to thirty-six, and in 1877 to fifty-two per cent. On the main line in 1868 there were four stations. The number was in 1870 increased to seven. Of these, Khámbli[2] had so small and so declining a traffic that, after being kept open for three years, it was closed. Both in passengers and goods the most important stations on the main line are Nadiád, A'nand, Mehmadabad, and Vásad. The remaining two stations, Návli and Boriávi have no goods, and a very small passenger traffic. The number of stations on the Dákor branch has since 1874 been increased from three to five. Of these, Dákor is the first passenger traffic station and Páli is the largest goods station in the whole district. Umreth stands second both in passengers and goods. Of the rest Bhálaj has no goods traffic, and Thásra shows but insignificant totals. The returns for all the stations in the district show that 346,746 passengers were carried in 1868, compared with 966,022 in 1877; while the traffic in goods has risen during the same period from 31,138 tons to 107,914 tons. The highest total of passengers and the largest quantity of goods carried during

[1] Bom. Gov. Sel., CXIV., 690.

[2] Khámbli had never any goods traffic, and its total of passengers fell from 6584 in 1870 to 836 in 1872.

this term of ten years were in 1877, and the corresponding lowest total and the smallest quantity, in 1868. The following statement shows in tabular form the fluctuations in the chief articles of trade, carried from and to the different stations of the Kaira district.

Kaira Railway, Goods, 1868-1877.

Articles.	1868.		1870.		1872.		1874.		1877.	
	Outward.	Inward.	Outward.	Inward.	Outward.	Inward.	Outward.	Inward.	Outward.	Inward.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cotton, half-pressed	1031	14	1211	1	2307	13	1552	1	908	334
Cotton, unpressed			41	1	72	750	38	48	120	22
Cotton seed	33	3533	21	6070	1	3168	52	5377	180	7344
Clarified butter	711	6	538	29	616	20	1252	7	1121	15
Grain and seed	1425	2767	7434	8028	5535	2447	6150	2406	18,023	12,424
Mahuda	4759	13	5011	14	3993	.	4855	14	9582	164
Metal	34	1606	44	1370	42	639	133	865	130	1448
Molasses	24	2164	19	2204	37	2108	53	1003	105	1037
Piece goods, European and country	49	936	57	1425	54	1030	62	414	269	1089
Sugar	7	1211	2	1283	3	913	11	905	39	1047
Sundries	3078	5041	3495	4212	2947	3391	7481	6890	14,232	17,938
Timber	257	1042	102	1427	143	1141	357	619	10 010	1709
Tobacco	880	3	4161	1	4679	1	7148	9	7641	100
Twist, European and country	19	495	15	559	9	274	117	756	134	699
Total ...	12,307	18,831	22,151	26,624	20,438	15,895	29,261	19,314	62,494	45,420

From the above table it will be seen that the principal articles of export are unpressed and half-pressed cotton, clarified butter, *mahuda*, Bassia latifolia, grain, tobacco and since the opening of the Páli railway, timber. Glass and soap, though peculiar to the district, are not manufactured in such quantities as to contribute materially to its export trade. The principal articles of import are cotton-seed, metal, molasses, sugar, piece goods, twist, and timber.

The details for the Nadiád station show an increase in the total number of passengers from 126,223 in 1868 to 175,367 in 1877, and in the quantity of goods from 16,430 tons in 1868 to 24,087 in 1877. During the ten years ending 1877, the greatest total number of passengers was 193,191 and of goods 27,240 tons, both in 1870; the lowest figures were in 1868. The returns for A'nand show that passenger traffic has increased from 110,816 in 1868 to 151,722 in 1877, with the highest total of 172,387 passengers in 1870 and the lowest total of 79,370 in 1873. Goods traffic shows an increase from 10,263 tons in 1868 to 13,670 in 1877; the highest total was 14,694 tons in 1871 and the lowest 10,263 in 1868. At Vásad, goods traffic has increased from 3032 tons in 1868 to 12,910 tons in 1877; the highest total was 14,403 tons in 1876. On the Dákor branch, passenger traffic has increased from 182,421 in 1874 to 425,584 in 1877, and goods from 9161 tons in 1874 to 53,312 in 1877. The Dákor station returns show that passenger traffic has increased from 126,066 in 1874 to 284,330 in 1877; goods traffic shows an increase from 5832 in 1874 to 9626 in 1877. Like Dákor, Umreth shows a considerable increase in goods traffic, the total for 1874 being 3329 tons against 11,148 in 1877. The following statement contrasts in

Chapter VI. Trade.

Railway traffic, 1868-1877.

tabular form the passenger and goods traffic at each of the stations of the Kaira district in 1868, 1870, 1872, 1874, and 1877.

Kaira Railway, Passengers and Goods, 1868-1877.

Station.	Distance in miles from Bombay.	Passengers. 1868.	1870.	1872	1874.	1877.
Main Line.						
Vásad	259½	36,313	50,304	48,908	50,766	60,832
Návli	265¼	...	10,641	16,276	16,081	15,263
A'nand	269½	110,816	173,387	136,118	129,963	151,722
Boriávi	274	...	18 170	23,931	27,140	29,894
Nadiád	280¾	126,223	193,191	164,231	151,272	175 367
Khámbli(a)	286½	...	6584	836	...	...
Mehmadabad	291¾	73,394	108,905	103,400	96,311	107,360
Total	...	346,746	560,182	493,700	471,533	540,438
Branch Line.						
Bhálaj	276¾	...	...	...	12,734	24,752
Umreth	283¼	...	...	...	43,621	70,943
Dákor	288	...	...	...	126,066	284,330
Thásra	293½	...	...	...	...	14,802
Hangári (b)	296¼	...	...	...	...	2566
Páli	301¾	...	...	...	...	28,191
Total	...	...	...	...	182,421	425,584
Grand Total	...	346,746	560,182	493,700	653,954	966,022
		Goods in Tons.				
Main Line.						
Vásad	259½	3032	5027	4943	6911	12,910
Návli	265¼	...	...	...	...	...
A'nand	269½	10,263	14,653	13,174	12,170	13,670
Boriávi	274	...	...	...	...	...
Nadiád	280¾	16,430	27,240	16,594	17,808	24,087
Khámbli	286½	...	...	...	...	...
Mehmadabad	291¾	1413	1855	1622	2525	3935
Total	...	31,138	48,775	36,333	39,414	54,602
Branch Line.						
Bhálaj	276¾	...	...	...	...	...
Umreth	283¼	...	...	...	3329	11,148
Dákor	288	...	...	...	5832	9626
Thásra	293½	...	...	...	...	1189
Hangári	296¼	...	...	...	...	1190
Páli	301¾	...	...	...	...	30,159
Total	...	...	...	...	9161	53,312
Grand Total	...	31,138	48,775	36,333	48,575	107,914

(a) Khámbli was closed in January 1872. (b) Hangári was closed in January 1877.

Butter.

The Kaira or *charotar* trade in clarified butter, believed to be worth to the district about £80,000 (Rs. 8,00,000) a year, deserves special notice.[1] The butter is made from the milk of cows, buffaloes, sheep, and goats. The makers are Kanbis, Kolis, Rajputs, Rabáris, and Bharváds, as well as Chámadiás, Dheds, and others of the depressed castes. The better class of *ghi* makers trade direct with Vánia, Bhátia, and Lohána dealers; the lowcaste makers trade

[1] Clarified butter has for many years been one of the chief Kaira exports. In 1824 the Petlád, now Borsad, cultivators exported large quantities of *ghi*. In their own carts and with their own bullocks they made every year four or five trips south bringing back cotton seed. They also took *ghi* east to Hálol and Kálol and brought back raw sugar.—Bom. Gov. Sel., XI., 110.

through Musalmán brokers. The local dealers buying in small quantities collect a large stock. This they are said to adulterate sometimes by mixing different sorts of *ghi*, sometimes by adding sesamum, *tal*, poppy seed, *khaskhas*, or *mahuda* berry oil. The mixing over, the dealers store the *ghi* in large leather bottles.[1] These bottles they either export at their own risk or store at the *ghi* markets to meet the demands of foreign dealers. The chief markets are A'nand, Umreth, Návli, and Karamsad, where buyers come from Surat, Baroda, Broach, Jambusar, Cambay, Bhávnagar, Gogha, Wadhwán, Limbdi, Dholera, and Bombay.

Tobacco.

Tobacco another of the chief exports is sent to Gujarát, Málwa, and the Deccan. Details of the tobacco trade have been already given (p. 47).

Manufactures.

Until the opening of steam factories at Ahmedabad and Nadiád (1870-1876), the spinning and weaving of cotton was, next to agriculture, the most important industry of the district. Almost all the women, both in towns and villages, were formerly to some extent engaged in spinning cotton thread. But the competition of local steam factories has greatly reduced the demand for handspun yarn. Formerly cloth woven by Dheds and Musalmáns was, besides meeting the local demand, sent to Ratlám and other parts of India. This cloth, coarse and very strong, served both for clothes and sacking. But of late years the demand for both purposes has greatly fallen. For sacking, Bengal jute cloth has to a large extent taken the place of the local manufacture, and the wearing cloth, which from its greater strength and cheapness had little to fear from the competition of European piece goods, has now been to a great extent ousted by the produce of Bombay and Gujarát weaving mills. Fine cloth for robes, *sádis*, waistcloths, and pantaloons are woven by Momna and Tái Musalmáns, and a few Hindus of the Khatri caste. Able to buy yarn cheaper than formerly, weavers of this class, though competition has reduced their profits, find a market for their goods. Calico printing and dyeing are carried on to a considerable extent, chiefly in Nadiád, Kaira, Dákor, Umreth, Mehmadabad, A'nand, Sastápur, Kathlál, Mátar, and Kapadvanj. Except for a few Márvádi Musalmáns, these industries are in the hands of Hindus of the Bhávsár caste, who number 3883 souls. Kaira water is thought specially useful for dyeing, and its prints have a good name. Besides a widespread home demand they are exported to Siam and other places. Some of the printers are men of capital and prepare articles on their own account. They buy their cloth and colours either from Ahmedabad or Bombay merchants, and sell their prints in lots on the spot to Vánia dealers, some of whom come from considerable distances. Their trade has suffered from competition. Many of them are said to be giving up printing and taking to other occupations. In 1876 (Aug. 17) a steam spinning mill with engines of fifty horse power and 9744 spindles, 6584 of them mule and 3360 throstle, was at a cost of

[1] These bottles or *kundás*, made by men of the Dabgar caste, vary in price from 2*s.* to 5*s.* and in capacity from 60 to 200 pounds (1½ to 5 *mans*.)

Chapter VI. Manufactures. 1877.

£48,500 (Rs. 4,85,000) started at Nadiád. Of the 400 £100 shares only 239 had been taken up. The shareholders belonged chiefly to Bombay. Hardly any local residents had any interest in the mill. Forced to borrow to make up deficiencies and meet expenses, in spite of the local advantages of cheap cotton and labour and large local demand, from heavy interest, dull trade, and cheap yarn the mill worked at a loss and after 2¼ years (Dec. 1878) had to be closed. While at work the mill employed nearly 300 hands, two-thirds of them local, Hindus of the Khedával Bráhman, Khatri, Tapodhan, Kanbi, Koli, Vághri, and Rávalia castes and Musalmáns in about equal numbers. Monthly wage payments averaged about £260 (Rs. 2600) and the yearly consumption of cotton about 357 tons (1000 *khandis*). The cotton came from Ahmedabad, Viramgám, Wadhwán, Baroda, Broach, and sometimes from Surat. The yarn was sold chiefly in the Kaira, Baroda, and Ahmedabad districts and in smaller quantities in Káthiáwár, Pálanpur, and Páli.

Glass-making.

Glass-making has its headquarters at Kapadvanj. The workers are Musalmáns. The glass is made in large earthen furnaces in form like huge slipper baths, the floor sloping forwards to holes prepared to receive the melted glass. The furnace inside is baked as hard and looks as white and slippery as ice. The component parts of the glass are alkali, *us*, and impure carbonate of soda, *sajji khár*, and a dark coloured flinty sand from Jeypur. These are mixed together, placed in the furnaces, and thoroughly boiled for hours. When ready the boiling mass is allowed to run into a trench where it remains till cool. It is then broken into small pieces, remelted, and in this liquid state made into bangles, beads, bottles, glasses, and fancy animals chiefly peacocks. The last are extremely thin and brittle, smashing to pieces when touched.[1] The produce of the Kapadvanj glass factories goes chiefly to Bombay and Káthiáwár.

Soap.

Soap is manufactured by Musalmáns. It is made by mixing alkali, soda, and lime in water and allowing them to soak for some hours. The water is then drawn off and a quantity of *mahuda* oil, *doliu*, is added, and the whole boiled in large brick caldrons. When ready the mixture is run off into shallow brick troughs and left to cool. It is then gathered into a large heap, pounded with heavy wooden mallets, and cut into round cakes. According to the amount of *mahuda* oil it contains, soap varies in price from 1½*d.* to 3*d.* (1-2 annas) the cake.[2] It is sent to Ahmedabad, Surat, Broach, Káthiáwár, and Bombay. The soap trade is entirely in the hands of Musalmáns of the Dáudi Bohora sect.

A district whose wealth and traffic are almost entirely agricultural, has naturally little trade organization. The use of the word *mahájan* or great men is entirely social, applied to the members of the Vánia, Shrávak, and Soni castes. They have no guilds for trade purposes, and among none of the artisan classes does the practice of apprenticeship prevail.

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[1] Bom. Gov. Sel., CXIV., 721.

[2] Bom. Gov. Sel., CXIV., 722.

CHAPTER VII.

HISTORY.

Crossed by so many of the chief lines of traffic between upper and central India and the coast, the district contains settlements of very great antiquity.[1] Under its different Rajput dynasties (746-1290) the lands of Kaira were, except perhaps Thásra and Kapadvanj, included in the settled and directly-managed portions of the Anhilváda domain. At the end of the fourteenth century they passed under the Musalmán kings of Ahmedabad, and with the other crown lands were in 1573 transferred to the Moghals.[2] From about 1720 to 1750 the district was the scene of almost unceasing conflicts between the Maráthás and the Musalmán viceroys and nobles. Except that the Kaira estate was for ten years left in the hands of the Bábi family, on the capture of Ahmedabad (1753) the districts were shared between the Peshwa and the Gáikwár, and remained with them till made over to the British, partly in 1803 and partly in 1817.

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[1] See Kaira and Kapadvanj.

[2] Except Kapadvanj, the whole of the district was included in Todar Mal's Survey (1590).—Bom. Gov. Rev. Rec., II. of 1821, 672.

CHAPTER VIII.

LAND ADMINISTRATION.

Chapter VIII. — Land Administration.

Acquisition, 1803-1817.

PART of the lands of the district came into British possession in 1803, and the rest in 1817. Under the terms of the treaty of Bassein (1802, December 31st) the Nápád group of villages was handed over by the Peshwa.[1] In 1803, for the maintenance of the troops supplied by the British Government, the Gáikwár ceded Nadiád, Mátar, and Mahudha.[2] In this year also, the Gáikwár granted in perpetual gift the fort and town of Kaira, as a proof of his friendship and as a testimony of his sense of the benefit he received from his alliance with the Honourable Company's Government.[3] Under the treaty of the 6th November 1817, to provide for the regular payment of additional troops, the Gáikwár ceded[4] Mehmadabad, Alina, Thásra, Antroli, and half of the town and district of Petlád.[5] At the same time Kapadvanj and Bhálaj[6] were received in exchange for the district of Bijápur in north Gujarát.

Changes.

The territories acquired in 1803, along with Dholka, Dhandhuka, Ránpur, and Gogha now part of the Ahmedabad district, remained from the date of their cession to the 14th May 1805, in charge of the Resident at Baroda. During that time, a European assistant and native officers administered according to local usages the police and justice of the country. In 1805 a Collector was appointed with jurisdiction over the ceded districts, both those to the north of the Mahi and those to the west of the Gulf of Cambay.[7] In the same year the town of Kaira was chosen to be a large military station. The increase in British possessions, that followed the Gáikwár treaty of 6th November 1817, called for fresh administrative arrangements.[8] The territory north of the Mahi was, from the 1st January 1818, divided into two districts. Of these, one, now the Kaira district, was called

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[1] Aitchison's Treaties, IV., 214—216.

[2] Nadiád was ceded on the condition that £10,000 (Rs. 1,00,000) from the revenues should be annually paid to Malhárráv Gáikwár. When Malhárráv fled (1803), the entire revenue lapsed to the British Government.

[3] Aitchison's Treaties, IV., 215 and 219.

[4] Aitchison's Treaties, IV., 231, and Reg. III. of 1819, Sec. I.

[5] For the interests and convenience of both Governments, the right of the British Government to the town of Petlád was, in exchange for the town of Umreth, transferred to the Gáikwár.—Reg. III. of 1819, Sec. I.

[6] Aitchison's Treaties, IV., 232, and Reg. I. of 1817, Sec. II.

[7] Reg. II. of 1805, Sec. V.

[8] Aitchison's Treaties, IV., 226—231.

Chapter VIII. Land Administration. Changes.

the Eastern, and the other, now the Ahmedabad district,[1] was called the Western Zilla. In 1830 Kapadvanj was included in Ahmedabad, and Kaira reduced to a sub-collectorate under the Principal Collector of Ahmedabad. In 1833 Ahmedabad and Kaira were again separated. Since then, more than once, villages have been moved from one district to the other, and the original irregular groups and collections of villages have been gradually consolidated into seven sub-divisions. Of these, under the Collector's charge, three are generally entrusted to the covenanted first assistant, three to the uncovenanted district deputy collector, and one kept by the Collector under his own control. The supervision of the district treasury is in the hands of another uncovenanted assistant styled the head-quarter, *huzur*, deputy collector.[2] These officers are also assistants to the Collector as district magistrate, and those of them who have revenue charge of portions of the district have, under the presidency of the Collector, the chief management of the different administrative bodies, local fund and municipal committees, within the limits of their revenue charge.

Staff, 1877.

Under the supervision of the Collector and his assistant or deputy, the revenue charge of each fiscal division of the district is placed in the hands of an officer styled *mámlatdár*. These functionaries, who are also entrusted with magisterial powers, have yearly salaries varying from £180 to £300 (Rs. 1800-Rs. 3000). One of the fiscal divisions, Borsad, contains a petty division, *peta mahál*, placed under the charge of an officer styled *mahálkari* on £72 (Rs. 720) a year. The duty of this officer is to collect cesses from the Cambay State, and to forward the money to the Borsad treasury.

In revenue and police matters, the charge of the 525 Government villages is entrusted to 573 headmen, of whom twenty-three are stipendiary and 550 are hereditary. Thirty-one of the hereditary, but none of the stipendiary, headmen perform revenue duties only; forty-seven of the former and three of the latter attend to matters of police only, while twenty stipendiary and 472 hereditary headmen are entrusted with both revenue and police duties. The headman's yearly pay depends on the revenue derived from his village. It varies from £1 to £65 (Rs. 10-650) the average receipts amounting to £6 6*s.* (Rs. 63). Besides the headman, in many villages members[3] of his family receive Government grants amounting altogether to a yearly sum of £1673 (Rs. 16,730), of which £309 (Rs. 3090) are met by assignments of land and £1364 (Rs. 13,640) are paid in cash. Of £4575 (Rs. 45,750), the total yearly charge on account of village headmen, £658 (Rs. 6580) are met by assignments of land and £3917 (Rs. 39,170) are paid in cash.

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[1] Reg. III. of 1819, Sec. III.

[2] Till the survey settlement is introduced a third uncovenanted assistant styled *daftardár* is sanctioned for the Panch Mahál districts. This officer works under the Collector of Kaira during the rainy season, and during the fair weather under the extra First Assistant Collector of the Panch Mahál.

[3] These men called *betha bhágia* or sitting sharers, are without doing any work entitled to a share of the office perquisites.

Chapter VIII. Land Administration.

Staff.

The village accountants, *talátis*, who under the headmen keep the village accounts and draw up statistical and other returns, number in all 325, or about one accountant for every two villages, each charge containing on an average 2357 inhabitants and yielding an average yearly rental of £584 (Rs. 5840). Their yearly salaries, paid in cash, averaging £19 (Rs. 190) vary from £12 to £24 (Rs. 120-Rs. 240) and represent a total yearly charge of £6151 (Rs. 61,510). Besides the stipendiary accountants, there is, in Kapadvanj, an hereditary *taláti* to whom a yearly cash allowance of £24 (Rs. 240) is paid.

Under the headmen and the village accountants are the village servants with a total strength of 2949. These men are liable both for revenue and for police duties. They are either Musalmáns or Hindus of the Bhil, Koli, Dhed, and Bhangia castes. The total yearly grant for the support of this establishment amounts to £6901 (Rs. 69,010), being £2 6*s*. (Rs. 23) to each man, or a cost per village of £13 (Rs. 130); of this charge £3689 (Rs. 36,890) are met by assignments of land and £3211 (Rs. 32,110) are paid in cash.

The yearly cost of village establishments may be thus summarized: headmen and their families £6248 (Rs. 62,480); accountants £6175 (Rs. 61,750); servants £6901 (Rs. 69,010); total £19,324 (Rs. 1,93,240). This represents a charge of £34 (Rs. 340) on each village or ten per cent of the entire land revenue of the district.

ADMINISTRATIVE HISTORY.[1]

Section I.—1803.

Administrative History, 1803.

The administrative history of the district includes two sections: its condition at the time of transfer, and its progress under British management. The parts of north Gujarát, made over to the British in 1802 (December 31st), formed three belts: one between the Narbada and Mahi, a second between the Mahi and Sábarmati, and a third to the north and west of the Sábarmati. These territories varied much in condition and in the character of their people. The southern belt was orderly and ready to receive a regular administration; the central, with many villages of peaceful and well-to-do cultivators, contained a warlike and unruly class; and of the northern, especially westwards to Káthiáwár, a large part were Koli and Rajput states included within the British territory and subject to a tribute, but in other respects left to manage their own affairs. The strength of this

[1] Materials for the Administrative History of Kaira are unusually complete. They include Col. Walker's Reports 1804-1805 (Bom. Gov. Sel., New Series, XXXIX.); Mr. Rowle's Reports 1814-1816 (Bom. Gov. Rev. Rec. 102 of 1815 and 1816); Col. Robertson's Reports 1819-1820 (Bom. Gov. Rev. Rec. 149 of 1820); Hon. M. Elphinstone's Minute 1821 (East India Papers, III., 677-709); First Survey Reports 1820-1826 (Bom. Gov. Sel. XI.); Mr. Williamson's Report 1826 (Litho. Papers 149) Sir John Malcolm's Minute 1830 (Litho. Papers 148, 1-62,); Mr. Elphinston's; Statistical reports, 1854 & 1855 (Bom. Gov. Rev. Rec. 52 of 1856 and 29 of 1858); Revenue Survey Reports 1860-1864 (Bom. Gov. Sel., CXIV.) including, besides Col. Prescott's very full historical and statistical Settlement Reports, papers by Mr. Pedder, C.S. and Mr. Trevor, C.S., on sharehold and *maliki* villages; Mr. Pedder's Vatan Settlement Report (15th February 1865) and for the five years ending 1877 much general information on the trade and state of the district in Mr. Sheppard's yearly Administration Reports.

disorderly class; the number of half subdued Rajput and Koli chieftains; the unsettled tributaries of Káthiáwár and Mahi Kántha; the continual interlacing of British lands with those of the Gáikwár, the Peshwa, and the Nawáb of Cambay; and the numerous and ill-defined tenures in almost every village combined to make the country beyond the Mahi harder to manage than any part of the Company's territories.

Villages.

The lands of the central belt, the present district of Kaira, were distributed over the sub-divisions of Nadiád, Mátar, and Mahudha, the estate of Kaira, and the Nápád and Khári village groups, *tappás*. The villages belonged to three classes, the quiet *rásti*, the refractory *mehvás* or *girás*, and an intermediate class the *rásti-mehvás*. The central lands of Nadiád and Nápád, and to a less degree those of Mátar and Mahudha, were almost free from the turbulent classes. But in the outlying tracts, both to the north and the south-east, was a large unruly population and many unsettled villages both of the Rajput or *girás*, and of the Koli or *mehvás*, types. Of the claims put forward by the two classes of holders of unruly villages, those of the Rajputs, as the rulers of the land at the time of the Musalmán conquest, and as at once the more warlike and more civilized race, were more respected than those of the Kolis. Though they probably at one time held the whole country, the Kolis would seem to have been considered rebellious, or at least refractory villagers, who had from its weakness resisted or eluded the just claims of the former Government. Both paid a tribute, and Government might raise its amount. But it was not usual to interfere with the inner management of their villages or to examine their revenues. Compared with the lands to the north of the Sábarmati,[1] the Kaira district had few unruly villages of the Rajput class. Its Koli or *mehvás* villages, chiefly to the east and south, under chiefs, *thákors*,[2] were most of them wretched groups of thatched beehive-like huts. Some of them included several distinct hamlets, *vás*, each with boundaries, husbandmen, and a chief of its own, responsible for a certain share of the whole Government demand on the village. Compared with the peaceful villages, the revenue they yielded was small, the amount fixed more by the chief's power of resisting than by his ability to pay. Rebellious and insubordinate, many of the refractory villages especially those near the Mahi, except under pressure of force, refused to pay their tribute.[3]

[1] In 1821 after many *mehvás* villages had become quiet, there remained seventy-two.

[2] Ham. Des. of Hindustán, I., 622.

[3] The application of *girás* to Rajput and *mehvás* to Koli villages was first clearly made by Mr. Elphinstone (1821). Colonel Walker (1804) did not bring out this distinction, and Mr. Prendergast (29th June 1821) doubted its correctness. Mr. Prendergast says, *mehvás* villages are chiefly situated in broken ground, the word is used whether the population is Koli, Rajput, or Bhil (East India Papers, III., 705). In support of the distinction Mr. Elphinstone contended that *mehvás* was used in the sense of refractory, and that as all independence on the part of a Koli was reckoned usurpation and was not in a Rajput, the term had come to be limited to Koli villages (East India Papers, III., 708). This word was, apparently in the sense of forest, used in Gujarát in the twelfth century (Ind. Ant. IV. 74 and 76). Its origin has recently (Major J. W. Watson, Ind. Ant. VI. 79) been traced to *Mahivás* that is Mahi dwellings. This would fairly well explain its Gujarát and Central India meaning. But the use of it by Minháju-s-Siraj (about 1250), to describe wild and forest lands between the Ganges and Jamna, makes this local explanation doubtful (Elliot's Hist. II. 362 and note.) Professor M. M. Kunte

Chapter VIII. Land Administration. 1803.

Alienated lands.

In quiet or *rásti* villages, the lands were divided into two classes, those made over to private persons either free of rent, *nakru*, or on a quitrent, *salámi*, and Government or *sarkári* lands let out for tillage. The private or alienated lands claimed to be grants made either by Government or by village managers. Government grants were either religious, *vazifa*, political, *vánta* and *maliki*, or to foster irrigation, *kuvetar*. Village grants were to please dangerous neighbours, *girás, pagia, bária, koliapa*, and *dabánia*; to reward village services, *pasáita, hária, ranvatia*, and *pália*; to reduce the pressure of Government demand, *vechánia* and *girániá*. Of Government religious grants, *vazifa*, properly a Musalmán religious grant, was used to include all personal grants by Musalmán rulers, whether as charity, favour, or in return for service. The area of land held under this tenure was small. Of Government political grants the *vánta* or share lands were originally allotted by king Ahmed I. (1411-1443) to the former Rajput proprietors, and either left in their hands or restored to them by the Emperor Akbar (1583). Under the Maráthás, by sale, mortgage, and encroachment, the share had in most cases ceased to form any thing like the one-fourth part of the whole village area. Still, in Colonel Walker's (1804) opinion, the right to the share 'maintained by arms and by an unconquerable sentiment was secured to the holders by universal consent, and was,' when he wrote, 'unimpaired in its privileges.'[1] The boundaries of the share were marked off, and there was generally a distinct quarter of the village where the holder of *vánta* lands and his dependents lived.[2] Lands of this class were, in some cases, held by the whole family as joint property, in others, kept in separate shares, or managed for the owner by the village headman. Under the head of *vánta* comes *sirjamin*, land granted by a holder of *vánta* for the maintenance of his wife. Even if the rest of the share escheated to Government, this part remained in the hands of the woman's heirs.

Maliks.

The other chief political Government grant was to the class of Musalmáns called Maliks. These Maliks were descendants of soldiers, who, for their special valour at the siege of Pávágad (1483), were by Mahmud Begada (1459-1513) presented with about ninety square miles of land on the banks of the Mahi to the north and north-east of

(5th April, 1879,) has kindly offered the following explanation. 'I would derive *mevás* or *mehvás* from the Sanscrit *mesa* a sheep, a word still used in the Maráthi *mendhi-váda* (*mesa-vátah*) a sheep-pen, and in the phrase *meshá-pátra* sheepish used of a simpleton or milksop. The word *mevás* is, I think, a relic of an old division of the country into *manusya-vása* or *gráma* the men's quarters and *mesá-vása*, the sheep-quarters, the outlying and untilled tracks.'

[1] Bom. Gov. Sel. XXXIX., New Series, 23. Later on (1821) this origin of *vánta* was disputed. Mr. Prendergast (29th June 1821) objected to the explanation given in the text, holding that *vánta* lands were encroachments. But Mr. Elphinstone kept to Colonel Walker's view. In his opinion, under the old Hindu sovereigns, the Rajputs divided the country among their chief's relations, and the Musalmáns when they came kept three-fourths and left a one-fourth share to the Rajput chiefs (East India Papers, III., 708. See also Mr. Williamson's report in Bom. Gov. Litho. Papers, 149, 9). In some cases the original share had probably been added to by force. Thus, Mr. Diggle (15th August 1806) mentions Girásiás ploughing village lands with a lighted matchlock on the plough to keep the villagers from interfering with them.

[2] Mr. Williamson.—Bom. Gov. Litho. Papers, 149, 9.

Thásra. At the time of the grant these lands were divided among twelve villages[1]; in 1817, when with the rest of Thásra they came under British rule, they numbered seventeen; and in 1864 had increased to twenty-seven. For more than two hundred years, taking half of the produce from the cultivators, the Maliks continued to hold these villages rentfree. About the beginning of the eighteenth century the Peshwa's Government imposed a lump tribute, *udhard jamábandi* on the *maliki* villages, the amount varying according to the success of the Maliks in resisting the Marátha demands. To meet this tribute, the Maliks put a property cess, *karam vero*, on their tenants and reduced their own share of the produce, *vaje*, from a half to a third. Fifty years later (1769) the Maráthás put forward another claim in the shape of support, *ghásdána*, for the Gáikwár's revenue collecting force. Some of the villages also became liable to a payment to the Bábi of Bálásinor. These exactions were met out of the property cess, *karam vero*, but in some years the Maliks were so hard pressed, that to meet the demand they had to part with a considerable quantity of land. In 1817, when Thásra came under British management, accountants were placed in the Maliki villages and a field register of all the lands was prepared. An acreage rate was imposed on Government lands not tilled by the Maliks, and a quitrent on the alienated land. As the Maliks still levied special cesses to meet their tribute to the Gáikwár and the Bábi of Bálásinor, the new assessment pressed the cultivators so hard, that they began to desert their villages. To prevent this a new settlement was made in 1819. The cesses on the cultivators of Government land, not in the Maliks' hands, were consolidated into one acreage rate varying considerably according to the cultivator's caste. The Maliks were to continue to hold the lands they tilled rentfree, and from other unalienated land, instead of the produce share, were to recover a fixed money payment. As to the Gáikwár's tribute, Government in some cases agreed to pay the whole, and in others only the half. Two years later, failure of crops forced a reduction of assessment, the loss of revenue being borne in somewhat larger proportion by Government than by the Maliks. In 1824 Government accountants were withdrawn from the Maliks' villages, and the privilege of self-management, granted to the Koli and Rajput chiefs in 1821, was extended to the Maliks. Soon after, the villages were on paying Government a lump sum leased to the Maliks, and they were left free to alter the rates of assessment as they chose. The leases lasted till 1837 when the arrangement sanctioned in 1819 and 1823 was again introduced. In 1843 and again in 1850 district officers complained that the Maliks had so adjusted the assessment, that while the Government share had been reduced by one-half the Malik's share was about one-fourth larger than in 1819 and the following years. But Government were unwilling to interfere till in 1860, on the introduction of the revenue survey, the Maliks were asked if they would continue to manage their villages, paying Government a fixed rental. To this they would not agree, stating that the number of sharers was too great to give them any chance

[1] Mr. Mills (1828) in his *Jamábandi* report speaks of them as the *bárgám* or twelve villages.

Chapter VIII. Land Administration. 1803. Alienated land.

of managing their villages successfully. After a detailed inquiry into the state of the different villages, Government finally decided to adopt the proposal of Mr. Pedder, the settlement officer, that the villages should be managed by Government officers under the ordinary survey rules, and that the Maliks should be allowed to hold the lands cultivated by themselves in 1819 rentfree, and for the rest receive a share varying from seven to nine sixteenths of the revenue. Village accountants chosen by the Maliks were appointed and paid by Government.[1]

The Government grants in favour of irrigation were *kuvetar* or well lands given to the builder of a well. The scale varied according to the cost of the well and the amount of land watered. But the rule was about three-quarters of an acre (1½ *bighás*) for each pair of bullocks that could be employed in drawing water.

Of village grants to please dangerous neighbours the chief was *girás*, literally a mouthful. In Kaira at the beginning of British rule, *girás* in almost all cases meant a sum paid to a powerful neighbour for protection and assistance or to an unruly villager as the price of forbearance. Originally the words *girás* and *girásia* were applied to rightful hereditary Rajput claims. But during the eighteenth century misrule, the terms had been extended to the demands of all who to the will added the power to annoy. The claim generally rested on prescriptive enjoyment. It was seldom supported by written deeds, and its levy by force was the cause of much misery and uneasiness. Under the British Government an arrangement was at an early date (1812) introduced, under which instead of levying them by force the *girásiás* agreed to attend at the Government offices and be paid their claims. They were at the same time made to furnish security for orderly behaviour. They were bound to help in suppressing gang robberies, and warned that if caught in any disturbance, they should forfeit their allowances. Under the same head come *pagia*, *bária*, and *koliapa* all of them lands held by Kolis. These, the holders declared, were originally assigned to them in the same way as *vánta* lands were assigned to the Rajputs. Grants of this kind may have been made, but they were probably much added to by the Kolis, as it was a common practice with men of this class to hire a field from the manager of a village, and after paying rent for a year or two, trusting to the timidity of the other villagers, to declare that it was family, *bápita* land. Some of the grants of this class, especially those called *pagia* or tracker's land, had another origin. They were given in reward for tracking thieves and to make the holder responsible for all thefts traced to the village. As a rule conditions of this kind were neglected or denied. To this class may be added *dabánia*, a general term for lands acquired either by usurpation or encroachment and kept by the threat of injuring the village manager.

Of grants made in reward for village services besides the *pagia* or tracker's land, were *pasáita*, *hária*, *ranvatia*, and *pália*. *Pasáita*, originally religious grants to Bráhmans and Bháts, to temples and to

[1] Bom. Gov. Sel., CXIV., 311-406.

charitable institutions, came to be applied to grants by village managers to sub-division and village officers. Grants of this kind were generally marked by the name of the holder's office as *desái* or superintendent's *pasáita, amin* or assistant superintendent's *pasáita,* and *rávania* or watchman's *pasáita*. The holder would seem to have been allowed to dispose of the land as he pleased. When the first grant was disposed of, the office either fell into disuse or was supported by fresh grants of land. *Hária* the victim's field, *ranvatia* the warrior's field, and *pália* the tombstone field, were grants made by village officers in return for loss of life in the cause of the village. *Hária* was land granted to the family of a man slain in guarding the village; *ranvatia* land granted to the family of a villager slain in an attack on some enemy; and *pália* a field granted that the family of a religious man, a Bráhman or a Bhát, who had killed himself in the interest of the village, might set up a tomb in his honour.

Of grants made by village managers to relieve the pressure of Government demands, the chief were *vechánia* land sold, and *giránia* land mortgaged. Lands disposed of in this way were held either rentfree or subject to a quitrent.[1] The mortgaged lands were of three kinds: simple, where the property was to be held till the debt was paid; *valatdánia*, where after paying interest the produce of the land was to go to clear off the bond; *udera*, where in a certain time the land was to go back to the mortgagor; and *sán*, where the land was pledged by the owner but not handed over unless he failed to pay. During the time of Marátha exactions, the practice of making these grants was carried so far, that in 1804 in Nadiád of 34,436 acres only 10,183, and in Nápád of 7046 acres only 1942 paid Government assessment. A large number of these grants were fraudulent. The sale or mortgage was nominal. The village managers paying a quitrent, tilled the land or transferred it to their own names with an entry that they had been received in exchange for some valuable consideration.

Government land.

Cultivators of Government, *talpat*, lands in peaceful, *rásti*, villages, generally held them under one of three tenures. The commonest was for the cultivator to have a certain area of land allotted to him, some of it good, some of it middling, and some of it poor. He paid only on the land under actual cultivation; and so long as he paid, it was understood that he could not be turned out. The second was known as *khátábandi* or the holding system. Under it the cultivator held a perpetual lease of some very good soil and with it a share of inferior but very lightly taxed land. A certain sum was fixed on the entire holding, and this had to be paid whether or not it was all tilled. A superior form of the *kháta* tenure was when the allotment of land was called *vehta*. On the allotted land a very high assessment, in some cases six times as much as it would naturally pay, was charged. The amount of land allotted to each cultivator, varying from half an acre to two acres, depended

[1] Quitrents, *salámi*, varied from a few pence an acre to the full acreage charge. Once put on, the quitrent was generally kept and sometimes raised.—Mr. Williamson, Bom. Gov. Litho. Papers, 149, 14.

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Government land.

chiefly on the alienated land in his hands, which he continued to hold either rentfree or subject to a quitrent. If his state improved, he was forced to add to his share of *vehta*, and if unlucky, he was allowed to give some up. The holder of *vehta* land was part-owner of the village. He could mortgage the land, and unless the Government raised the village payment, his rent could not be increased. In villages where the area of Government land was too small to supply a share for each cultivator, the quantity required was taken from the alienated land, and in return a quitrent was paid to the owner. In villages where, after the lots were distributed, some Government land remained over, a rate of payment was fixed, and the land, called *khotia*, was distributed among the *vehta* holders. In villages inhabited only by shareholders the balance of the alienated land was assessed and distributed in the same way as *khotia* land.[1] The principle of *vehta* and *kháta* lands, the allotment of a certain area of greatly over-assessed land, was the same. Both were remnants of the perfect sharehold or *narva* village described below. Both in sharehold and in *vehta* villages the body of owners were liable for the whole Government demand. They differed in this, that in a perfect sharehold or *narva* village each member paid according to his hereditary share; in a *vehta* village the share varied according to the member's power to pay. In a *khátábandi* village the management was in the hand of a contractor or Government officer and the joint responsibility had ceased. The third practice was for the cultivator to take out a written lease, *ganvat*, engaging to till the land for one year. This land, lying in most cases beyond the enclosed parts of the village, was too poor to have fixed holders. It was generally tilled by *uparvádiás* or workmen from a neighbouring village.[2] If a cultivator kept on tilling the same field for several years, he would have to take out a running lease or *chálu ganvat*. Under this arrangement there was no regular cess, *bighoti*, for the different qualities of land; the rate varied with the crop, or each field had its own rate. Unless he gave notice, a cultivator had to pay the cess on all the land he held.[3]

Except Government grants and hereditary shares, the lands were not the property of the holders; they were let out to the cultivators by the village headmen. If the cultivator failed to pay his share, his crops, and except his tools, his property were attached, Government

[1] A village so held was called *narva*. It differed from the ordinary *narva*, because the division was not as in the ordinary form according to the regular Hindu rules of division, but was according to the holder's means. Captain Robertson gives this as an example of the details of a *vehta* holding. Rámdás Ishvardás of the village of Majtral holds altogether 56 acres of land, and pays a rent of £14 18*s*. (Rs. 149). Of the 56 acres one and a half of *vehta* land paid £10 4*s*. (Rs. 102); 16 acres of quit-rent land paid £4 14*s*. (Rs. 47); and 40 acres were held rentfree.—Kaira Outward Rev. Book, 1821.

[2] Mr. Williamson, Bom. Gov. Litho. Papers., 149, 5. Leases were also granted in certain special cases. In the small state of Kaira the land was (1804) leased to the cultivators for terms of from three to five years, the cultivators engaging to pay either half of the crop in kind or its money value. It was also the custom for a revenue farmer when he found a village ruined or waste to lease it. The lessee might again parcel out the lands of the village in leases.—Col. Walker (1804) Bom. Gov. Sel., XXXIX., 9, 25.

[3] Capt. Robertson, Kaira Rev. Outward Book, 1821.

recovering one-eighth in addition to their regular share of the produce. Still the cultivator had prescriptive rights and was seldom turned out of land which he or his family had long held. When too hard pressed[1] his usual resource, both in Government and in alienated villages, was to move into another district, and either settle there or wait till his grievance was redressed. Revenue farmers sometimes agreed to prevent these movements, refusing to give immigrants work; but as a rule they were not slow to make use of the services of any workman who wanted employment.

Rental.

The villagers' payments were of two kinds: a rental or *jama*, and cesses *vera* or *bábat*. The land tax was paid either in kind by a division of the produce called *bhágbatái*, or by an acreage rate, *bighoti*. When payment was taken in kind, the produce was divided by the Government agent and the village headman. The division was made either in the field, the *kaltar* system,[2] or in the village farmyard, the *khalvad* system. Though in different places it varied to some extent, except in the case of Kolis, Musalmáns, and other unskilled cultivators who paid specially easy rates, the Government share was held to be one-half of the rain crop and from one-third to one-fifth of the dry weather crop if raised by irrigation. From their share of the produce the cultivators had generally to pay the village officers[3] an allowance in grain, and in some cases a charge for moving the grain to headquarters. As regards the acreage rate, *bighoti*, there were remains of the old measurements of Rája Todar Mal, the Emperor Akbar's surveyor (1583-1590).[4] A record of the areas was kept, and though disregarded by the Maráthás, his rates were still cherished by the people. Under the Maráthás the rent depended on several considerations. First, the character of the soil, the lands being divided into three classes and paying rent according to their fertility. Second, the kind of crop grown, millet paying from 10*s.* to 12*s.* an acre, and sugarcane from 15*s.* to 30*s.* A third point was the distance of the field from the village site; and a fourth, the distance of the village from a market. For the benefit of the less skilled class of cultivators, Kolis, Musalmáns, and others, two special forms of payment were in use, one a uniform acre cess called *ghattáchás*, the other a lump sum or *udhadsalámi* on the entire holding.

Besides the land tax many cesses, *verás*, were enforced, those on ploughs, carts, cattle, and horses, falling on landholders; and those

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[1] Mr. Williamson (1826) mentions a custom at Mehmadabad that must have pressed hard on the cultivators. At the beginning of the field season their ploughs were taken and kept till they agreed to till a certain area of land.

[2] Of the *kaltar* system there were three varieties, *ubha*, when the crop was valued standing; *uga*, when the crop was valued cut; and an estimate or *dál* founded on the examination of a portion of the field.—Bom. Gov. Rev. Sel., XI., 14.

[3] In Nadiád (1803) the cultivators out of their half, paid from every *man* of forty pounds, 1¼ pounds to Government, ½ pound to the village accountants, ¼ pound to the headmen, and ¼ pound to the messengers.—Bom. Gov. Sel., XXXIV., 50.

[4] Except Kapadvanj the whole of the present Kaira district would seem to have been measured by Todar Mal. Though the system is not certainly known, the measurements are said to have been: five cubits, measured by the arms of five different men, form one *visvisi*; twenty *visvásis*, one *vasa*; and a square, measuring twenty *vasás* each way, one *bigha*. Todar Mal's settlement is said to have continued in force until the death of the Emperor Aurangzeb (1707).—Bom. Gov. Sel., New Series, V., 14.

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on shops, trades, houses, and hearths, on the non-landholding classes.[1] The object of the cesses on tillage was to draw a revenue from rentfree land. To prevent the payment of cesses bearing too hard on the tenant of revenue paying land, a reduction of the land tax equal to the amount of the cess was often made. Besides the indirect cesses rentfree lands were made to contribute in two ways, by an acreage quitrent or *salámi*, and by a varying cess or *svád* on Government cultivators who tilled rentfree lands.

Village organization.

There were four forms of village government. The commonest known as the simple, *seja*, form, was for the village headman to engage annually for the payment of a certain sum to Government. The headman realized the amount of the demand according to the established rates and customs of the village, the rights of the owners of alienated lands and of cultivators of every sort remaining unchanged. The profits of a good year went to the headman and he had to bear any loss from failure of crops or short tillage. Another form of management, common in the richer Kaira villages, was the *narva* or share system. Under this the headman's responsibility was divided among the members of his family. In such cases the different branches of the family were traced back to their common ancestor, and the village divided into as many shares, *bhág*, as that ancestor had sons. Each share was made over to the representatives of one son, and they divided it into as many lots as there were men in their branch. The head of each branch was called *bhágdár* or *patel*. He acted for the other shareholders, but interfered in no way with their management of their shares. Sometimes the headman's family tilled the whole village. In other cases there was only one shareholder in each branch, and again the shares were occasionally sold and outsiders brought in. When there was only one shareholder in a branch, it was common for him to have under him *ásámis* or men who did the actual work of tillage. Though the shareholder might turn him out, the power was seldom used, and the sub-tenant was as a rule well off. The sharer supplied him with a house, cattle, and manure, and advanced him money. He generally paid in kind, and it suited the sharer to use him well as he then had time to take part in village politics and stir up disputes, the chief pleasures of his life.[2] Every year the Government demand, *ánkdo*, was divided equally among all the branches, and in every branch each shareholder had a lot, *phála*, assigned to him. If he failed to pay, he forfeited his right to the land, and the other sharers might force him to give it up. But even though he gave up his share and left the village, a shareholder might come back and on paying compensation

[1] The chief cesses were the plough tax, *hal or sánth vero*; the deficit tax, *khot vero*; the water tax, *páni vero*, generally on newcomers; the arms cess, *dhárála vero*, on turbulent and warlike classes; the carcase tax, *pot vero*, paid by tanners for dead animals; the leave tax, *raja vero*, for right to cut crops; the Káthis tax or *káthi pál vero*, at first a contribution to buy off the Káthis, afterwards made part of the Government revenue; a tail tax, *puchhi vero*, on bullocks and buffaloes; a trade tax, *kasab vero*. (Mr. Williamson, Bom. Gov. Litho. Papers, 149, 17.) In some places each person paid his own tax; in others, the headman of a class paid the whole class assessment and settled how much each family should give.

[2] Captain Robertson, Kaira Rev. Outward Book, 1821.

Village organization.

claim his land. The responsibility for other sharers was not always enforced.[1] Sometimes the loss in lapsed, *parela*, shares was so heavy, that the solvent sharers were unable to meet it. In such cases the lapsed share was managed by Government.[2] When, as often happened, the shares did not include the whole village arable land, the balance called the undivided, *majmun*, land was managed for Government by the headman, *bhágdár*. Except when they bought one of the shares, strangers almost never cultivated in a sharehold village. The whole village site was parcelled among the shareholders, and no new comer could find a house.[3]

The two other forms of village management were only occasionally resorted to. The first called *ijára* or farm, was to let the village to any stranger willing to agree to higher terms than those offered by the village headman. The other called direct, literally detailed or *kacha* management, was to keep the management in the hands of Government officers; the headman or some one else chosen by Government settling with the cultivators and collecting their rents without any avowed profit or any responsibility for the amount. Farming and direct management could be introduced both in simple and in sharehold villages. In a simple village managed by Government direct, the settlement was with the cultivators. If it was farmed, the farmer took the place of Government. In a sharehold village managed direct, Government set aside the *bhágdár* or headman and collected from each *pátidár* or sharer, leaving him to settle with his sub-tenants. If a joint village was farmed, the farmer might either settle with the headman or manage the village direct. In either case his sole source of profit was the undivided or *majmun* land, the rest being in effect already farmed to the sharers.[4]

Each year generally in January when the crops were well advanced, the revenue farmers and the district revenue officers, from the state of the crops and the amount paid in the former year, fixed the season's demand. A provision was always made for reductions in the event of disturbances, and when the prospects of the season failed an allowance was given. The amount fixed, the headman was held responsible for its payment and was called on to name a Bhát as his security. The headman then arranged with the villagers what each had to pay and took security from them. The assessment, sometimes in money, sometimes in kind, was paid by instalments, the instalments being generally calculated to meet the cultivator's

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[1] Mr. Williamson, Bom. Gov. Litho. Papers, 149, 6.

[2] Mr. Williamson, Bom. Gov. Litho. Papers, 149, 2.

[3] Further details of the sharehold village system are given in the Broach Statistical Account (Bom. Gaz. II., 483). The shares of a village were for convenience kept as *ánnás* or parts of a rupee. Mr. Williamson gives the example of Sandesar in Petlád. This village had seven branches, each with a twelve *ánna* share. To each *ánna* was attached 17 *bighás* 18 *vasás*, 15·8 of them Government land, and 2·10 rentfree, or 1505 *bighás* in all. Besides this there were 403·5 *bighás* of undivided land, or a grand total of 1908·5 *bighás*. The Government demand on each of the seven branches was Rs. 1080 or Rs. 90 on each one *ánna* share. 90 × 84 the number of one *ánna* shares, gives Rs. 7560, and this with Rs. 294 from the undivided land, gives a total village payment of Rs. 7854.—Bom. Gov. Litho. Papers, 149, 8.

[4] East India Papers, III., 680-681.

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convenience and made to fall about the season of reaping.[1] If the headman failed to pay his instalment, the crop was usually attached by the Government manager, *kamávisdár*, or his agent, and one-half was kept and the other half returned. To reap and again to carry the crop home, the headman had to get the revenue farmer's leave.[2] On a village, backward in paying its contribution, a fine was levied, or a messenger billetted. The billet, *mohsal*, at the revenue farmer's discretion, represented a daily fine varying from 2*s*. to £10 (Rs. 1–Rs. 100). A trooper besides his horse's feed was paid one shilling a day, and a footman received his food and one shilling.[3]

Revenue staff.

The land revenue collecting staff were the manager, *kamávisdár*, the sub-division superintendent, *desái*, the sub-division accountant, *majmudár*, the assistant superintendent, *amin patel*, the village headman and accountant, and their securities. Under the Maráthás the *kamávisdár* was sometimes simply a Government agent or manager, seeing that the revenue farmer was not misusing his powers and receiving from him his yearly payment, and in other cases he was both Government agent and revenue farmer. His lease was generally for a term of from five to seven years, and as a source of revenue rather than a means of justice, the civil and criminal management of the district was placed under his charge.[4] Of sub-division officers the superintendent or *desái* guarded village interests, kept open the channels of justice, saw that the cultivators were not oppressed, looked after village improvements, and where necessary made advances for sowing. On behalf of Government, he superintended the village headmen, supplied all local details likely to help in fixing the revenue, and settled boundary and other village disputes. Under British management the *desáis* lost almost all their power and position.[5] On the other hand, the *majmudárs* or sub-division accountants as registrars of district rural statistics, formed a most useful part of the British land revenue system. In 1821 Government wrote that it was their anxious desire to establish or revive this office and maintain it in a state of efficiency.[6] The *amin patel*, the *desái's* assistant, inspected the different village accounts and settlements. Though in these offices the son generally succeeded the father, the practice was tolerated rather than admitted as a right. These sub-divisional officers formed a well-to-do class. Besides their village fees, *dasturis*, most of them had, chiefly by taking land in mortgage, acquired considerable estates. But though known as *zamindárs*, they had no claim to the exercise of separate jurisdiction.[7]

Headmen.

The village headmen, *patels*, the medium of intercourse between

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[1] Bom. Gov. Sel. XXXIX., 10

[2] Bom. Gov. Sel. XXXIX., 7. [3] Bom. Gov. Sel. XXXIX., 27.

[4] In 1803, at the time of the transfer of the districts north of the Mahi, of nine managers, five—Nadiád, Mátar, Mahudha, Dholka, and Gogha—were simply agents of the Government, entrusted with the supervision of the revenue farmer, and five—Kaira, Bijápur, Kadi, Nápád, and Dhandhuka—were farmers as well as agents. The same man was manager of Mahudha and farmer of Kaira.—Bom. Gov. Rev. Rec. 48 of 1805, 1959.

[5] An allowance is to be made to the *desáis* and they are by degrees to be done away.—Bom. Gov. letter, Rev. Dept., 1070 of 1821.

[6] Bom. Gov. letter, Rev. Dept., 1070 of 1821. [7] Bom. Gov. Sel., XXXIX., 25.

the revenue farmer or manager, *kamávisdár*, and the cultivators, were the great agents for fixing the village payments. They governed the village, managed its affairs, and settled its disputes. Each village had generally a head family whose members were called *patel*. But among them were one or two of special capacity, the *matádárs* or signers, who alone had the right to sign the village agreements. The position was hereditary, and though as *patels* they held no land, most of them were well off, with in some cases estates large enough to raise the owner to the rank of landlord or *zamindár*.[1] The villagers made them presents of grain, and in return for their services, they received from the manager or revenue farmer a yearly allowance depending on the help they had given and amounting in some cases to as much as £600 (Rs. 6000).[2] Under the headman was the village accountant, *taláti*. This office had ceased to be of any consequence. He was little more than the headman's clerk and was paid by a grain allowance from the villagers.[3]

Security.

The realization of the revenue was protected by an elaborate system of sureties. Sureties were of two classes, the Bhát, and the money-lender, *manotidár*. The position of the Bhát was very important. In unsettled villages the chief, and in settled villages the headman or manager, from their feeling of a Bhát's personal sanctity were, by any threat of his to sit starving before them or to wound himself, in almost all cases forced to carry out their agreements. For the further security of Government and to ensure the prompt payment of the revenue, a certain class of usurers became, in return for a premium, *manoti*, of twenty-five per cent, sureties to the villagers for the payment of their rent. This custom which had reached its greatest height in Dholka prevailed in all the ceded districts.

In Colonel Walker's opinion, the Marátha system had the merit of being simple and well calculated to ensure the recovery of the revenue. On the other hand, the demand was uncertain and the system liable to abuse and burdensome to the cultivator, who besides paying high rates had to support his sureties.

Section II.—1803-1878.

Since the district came under British rule, its land administration may be roughly divided into three periods : the first from 1803 to 1814, when the revenues of village groups and single villages were farmed to men of capital and village headmen ; the second from 1814 to 1862, when details of village management were collected and by degrees landholder's liabilities made simpler, fairer, and more certain ; the third since 1862, when the revenue survey system was introduced.

The first year's (1803) management was successful with receipts slightly in advance of the estimates.[4] By preserving the public

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[1] Bom. Gov. Sel., XXXIX., 4. [2] Bom. Gov. Sel., XXXIX., 5.
[3] Bom. Gov. Sel., XXXIX., 4.
[4] The increase was in Nadiád from £22,500 to £23,198 ; in Mátar from £13,000 to £13,473 ; and in Mahudha from £11,000 to £11,600.

Chapter VIII. Land Administration.

1803-1814. Changes.

peace, stopping illegal exactions, granting loans for the tillage of arable waste, and recovering illegally sold Government land, Colonel Walker calculated that in four or five years the revenue might be doubled.[1] Regarding the future management of the district, Colonel Walker (1805, 6th July) was of opinion that the tribute of the Rajput and Koli chiefs should not be increased; that they should be called on to furnish securities for good behaviour; be forced to give up criminals and engage never to shelter public enemies; that much of the illegally alienated Government land should, as was the practice under the Maráthás, be recovered by offering the holders two-thirds or three-fourths of what they had paid; and except that the district revenue manager, *kamávisdár*, should cease to farm the revenue and become entirely a Government agent, the Marátha system of revenue management should, until the state of the country was well known, be continued.[2] Mr. Diggle, appointed Collector in 1805, met with considerable difficulties in his first year of office. A force of two hundred men had to be sent against the Mahi Kolis, who refused to pay their tribute, and in the quieter villages distress was caused by money-lenders raking up old debts and trying to recover them under the strict provisions of the English law. During the next eleven years (1805-1815) Colonel Walker's counsel against changing the form of revenue management was carefully followed.[3] The district was distributed over new sub-divisions, each a suitable charge for a manager, *kamávisdár*.[4] Villages continued to be farmed, some in groups, chiefly to the hereditary district officers, *desáis* and *amin patels*, and others singly, as a rule to their headmen.[5] Except that the practice of requiring securities was gradually given up,[6] that the Government supervision was stricter, and that more readiness was shown in hearing complaints and checking abuses, the revenue management remained almost entirely unchanged. One of the first matters that pressed for settlement was the claims of the superior landholders, *girásiás*. Their way of levying their demands by force caused much uneasiness. In 1808 Mr. Diggle[7] described them as of barbarous spirit, referring right to the spear

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[1] Bom. Gov. Sel., XXXIX, 22. In proof of this he cites the case of Nadiád with 10,094 acres of waste arable land and 10,000 acres of illegally alienated land able together at ordinary rates to yield a yearly revenue of £27,128.

[2] Bom. Gov. Rev. Rec., 48 of 1805, 1935—1959.

[3] Few innovations were made and actual possession was not disturbed. The wise maxims and sound principles laid down by Colonel Walker were acted on with the most marked effect. Sir John Malcolm's Minute of 15th October 1830.—Bom. Gov. Litho. Papers, 148, 7.

[4] Among the Marátha managers some very excellent servants were found. The rise of revenue in 1805 was chiefly due to their good character and local knowledge (Colonel Walker, July 6th, 1805) and in the next year Mr. Diggle won for them a special exemption from the rule against Government servants engaging in trade.—Bom. Gov. Rev. Rec., 51 of 1806.

[5] During the first five years villages were chiefly farmed in groups to the *desáis*, then singly to headmen, and then, though this never became general, by leasing separate villages to the highest bidders.—East India Papers, III., 685.

[6] Capitalist, *manotidár*, security was soon given up. Bhát security was continued till in 1816 in consequence of the Bhát riot at Mátar, the practice was stopped. —Ham. Des. of Hind., I., 692.

[7] Consultations, 25th August 1813, No. 33, quoted in East India Papers, III., 725.

Girás payments.

rather than to any deed. Most of their claims, one of the chief of which was bag money, *kothli girás*, were forms of blackmail. They increased their demands in the most unfair way. Sometimes village headmen arranged with the *girásia* to raise his claim on the village, the headman at first sharing the spoil, but in the end the *girásia* gaining the whole. Mr. Diggle thought that their claims could not be denied, as they would join together and find easy shelter in the woods and ravines near the Mahi. He suggested that instead of being allowed to levy their claims from the villagers, *girásiás* should be paid from the Government treasuries. As Government pensioners, they would, he thought, lose much of their importance. In 1811 Mr. Rowles began to act on this proposal. His first task was to get the non-resident *girásiás* of Kapadvanj to agree that their claims should be paid by Government and afterwards the principle was extended to the local claimants. In 1816 Captain Robertson reported that in Mátar, Mahudha, Nadiád, and Nápád, arrangements had been made, and that as settled in 1814-15, the total yearly cost came to £2066 (Rs. 20,660).[1] All further claims were subjected to the strictest scrutiny and very few were brought forward. At the same time that they agreed to be paid their claims from the Government treasuries, the *girásiás* were made to furnish security for good behaviour, bound to help in suppressing gang robberies, and warned that any breach of the peace would entail a forfeiture of their allowance.

Revenue.

Between 1805 and 1815, chiefly from the spread of tillage, the land revenue rose from £130,015 to £182,187 (Rs. 13,00,150-Rs. 18,21,870), the advance on the original rentals amounting in Gáikwár lands to twenty-seven and in Peshwa lands, where former supervision had been laxer, to ninety per cent.[2] From 1812 to 1815 was a time of great prosperity. The Káthiáwár and north Gujarát famine of 1813 and 1814 raised produce prices nearly threefold, and as there was no failure of crops in Kaira, much wealth poured into the district.[3]

1814-1863.

The fifty years from 1814 to 1863 began with the inquiry into the details of village management and the discovery of much irregularity and fraud. In some of the following years especially in the settlement of 1819, the Government demand was greatly enhanced.[4] Helped by the unusually high value of field produce, the new rates were not at first found oppressive. But with the return of ordinary prices complaints of over-assessment became general. In 1826 and 1827 the rates were lowered, and in spite of a falling market, this relief sufficed till in 1831 and 1832 grain fell to less than half of its average money value. Among the agricultural population distress was most keen and widespread. Great part of the revenue could not be collected, and complaints ceased only after some years

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[1] East India Papers, III., 726.
[2] Ham. Des. of Hind., I., 690.
[3] Millet rupee prices rose from fifty-five pounds in 1811 to fifteen pounds in 1812.
[4] Without any addition of territory, the land revenue rose in 1819 from £157,770 to £172,731. This increase is traced to three sources, the levelling of assessments, the discovery of hidden revenue, and the spread of tillage.—Bom. Gov. Rec. 149 of 1820, 374.

Chapter VIII. Land Administration. 1814-1863. Summary.

of free remissions, large rent reductions, and higher grain prices. From 1838 to 1848 was a fairly prosperous time with moderate rates and steady prices. Then, after some years of cheap grain and general depression, came in 1857 a demand for produce, and this continuing for five years, raised the district to much comfort and wealth. During this time by fixing the rental as far as possible according to the value of the land, by removing cesses, and by granting leases, Government tried to make the land tax fair, simple, and unchanging. Bad seasons, low prices, and the fear of sacrificing revenue prevented these aims from being fully carried out. Still by the steadily growing knowledge of the district and by the constant inquiry and supervision of district officers single cases of over-pressure were corrected, rates were equalized, and the grounds of assessment simplified.

1817. Acquisitions.

This period (1814-1863) may be conveniently divided into two sections, before and after 1831 and 1832, years of great agricultural depression. During the first section (1814-1830) the chief event was, in 1817, the addition to the district of the lands of Petlád, Thásra, Bhálaj, and Kapadvanj. Of these territories Petlád, now Borsad, was at the time of acquisition, cultivated like a garden, the houses well built and handsome, and the stock of cattle large. But with all this show of wealth Borsad was rack-rented. Seven of its sharehold villages had broken down, and the want of waste land made distress all the keener.[1] In Thásra the soil was poor and badly tilled, and the cultivators lazy and unsettled.[2] Kapadvanj was in a wretched disorderly state. From their retreats among the Mahi ravines, Kolis were in the habit of sallying in large bodies and harassing their quieter neighbours. The population was scanty, and the cultivation slovenly. Except Kapadvanj, the villages were little more than temporary hamlets of the most wretched huts. So unsettled was the general feeling, that the Kolis used to cut their crops before they were ripe, and earn a living by carting soap to Broach and cotton to Málwa.

Prices.

As regards produce prices between 1814 and 1830, the district passed through three terms of about five years each. From 1814 to 1819 a time of cheap grain, then till 1825 high prices, and from 1825 to 1830 a rapid fall, ending with prices lower than they had been since the beginning of the century.[3]

Changes.

The chief administrative measures of this period were, in 1814, the establishment of a regular staff of paid village accountants, *talátis*, and between 1820 and 1826 the detailed survey of great part of the district. From being hereditary village officers, the chief or headman's clerks, the village accountants were made paid Government servants and agents. The new accountants were appointed both to

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[1] Mr. More's report of 1822.

[2] Collector's report, 4th June 1824. Of seventy-five villages, thirty were peaceful, thirteen uneasy, and thirty-two medium.

[3] Millet, *bájri*, prices were between 1814 and 1819, on an average fifty-four pounds; in 1819, twenty-nine pounds; between 1820 and 1824, on an average forty-one pounds; in 1828, eighty-one pounds; in 1829, seventy pounds; and in 1830, one hundred pounds.

settled, *rásti*, and to unsettled, *mehvás*, villages. In unsettled villages they collected the dues from the chief's tenants, and except an allowance of twenty per cent left to the chief, made over the revenue to Government. The wisdom of this change was doubtful; the chief's independence in his own village, so carefully respected during the early years of British rule, was at an end, and he suffered at once from a loss of position and of revenue. Complaints were frequent, and it was not found possible to appoint accountants to all their villages.[1] To the settled villages the change would seem to have been well suited. The farming system was attended by loss both to the Government and to the bulk of the cultivators, and by many evils to the higher class of villagers. Government lost because its officers had no knowledge of village resources and little power to prevent the headman alienating or misappropriating them.[2] The bulk of the husbandmen suffered because the headmen, unchecked in distributing the village rental, leaving themselves and their connections free, recovered almost the whole from the lower class of landholders,[3] and though in some ways they profited by the system, the rich villagers suffered greatly by their keen unscrupulous rivalry for headship.[4] At first the change met with much opposition. It greatly reduced the power and position of the native sub-division revenue officers, and to a less degree affected the authority of the village headmen. These two powerful bodies joining roused the religious classes to opposition. But the mass of the villagers approved the measure, and opposition gradually died away.[5] A fresh set of difficulties arose from the failings of the new accountants. Equally exposed to temptation, they were not less dishonest than those whose places they had taken. At the same time the post was unpopular, and the supply of men fit to do the work was so small that the Collector was forced to pass somewhat lightly over their misdemeanours. In spite of these defects the accountants' inquiries supplied

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1 No accountants or police *patels* were introduced into the *mehvási* villages.—East India Papers, III., 684.

2 Headmen alienated lands either by sale or mortgage to members of the religious classes. The receivers were entered as the owners, but the headman continued to hold and till the land, paying only a small sum to the nominal grantee. Headmen also misappropriated revenues for lapsed or lease alienated lands.—Bom. Gov. Rev. Rec. 149 of 1820, 393 and 398.

3 With this object the headmen prepared the most varied and elaborate accounts, showing only the total village contribution and carefully concealing the amounts paid by the different villagers.—Bom. Gov. Rev. Rec. 149 of 1820, 380.

4 In the struggles for the post of village manager, every village was filled with parties, wasting their time and money, hanging about those in power. In these rivalries every moral principle and obligation were disregarded. Leagues formed one day and cemented by the most sacred oaths were broken the next, and even assassins were employed to murder rivals who could not otherwise be removed.—Bom. Gov. Rev. Rec. 149 of 1820, 382, 404.

5 Bom. Gov. Rev. Rec., 149 of 1820, 410, 411.—The opposition was keenest at Nadiád. There, under the *desáis*' influence, the headmen refused to collect the revenues. An assistant collector, Captain Barnewall, was sent to arrange a settlement direct with the cultivators. The result was most satisfactory, opposition was broken down, and much useful information collected.—East India Papers, III., 733. In connection with their opposition to this measure, four of the Nadiád Desáis were in 1814 convicted of conspiracy and sentenced to five years' imprisonment and to a fine of £1000. In 1818 the fine was remitted and the prisoners released.—Kaira Vatan settlement report, 15th February 1865.

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materials for the effectual control of village managers. In settling villages on the new system the village expenses were as a rule greatly reduced.[1] The holders of quitrent or rentfree lands under Government grants, were first called on to prove their claims. Except Bháts who in some cases raised objections, holders freely showed their title deeds. In the absence of written proof, a bond witnessed by the heads of the villages was taken declaring the justice of the holder's claim. The course generally followed in the case of illegally alienated lands was to continue to the nominal grantee the allowance he had been receiving and to recover full assessment from the actual holder.[2] The lands of Rajput or *vánta* shareholders willing to lease them were taken under the direct control of Government. The amount of the lease was paid from the Government treasury and the share was managed like other village lands.[3] In Government lands some progress was made in replacing the many complex and unequal cesses by one general assessment. In each case the amount of the new assessment was fixed by a committee of native revenue officers and village headmen. The points taken into consideration were the rates formerly charged, the rates paid by similar land, the character of the soil, the situation of the village in respect of markets, and the caste and position of the landholder. Except in rare instances, the committee's rates were confirmed by the Collector and remained in force for terms of five or seven years.[4] Every year in each village, about August when the early crops were well advanced, the accountant entered in the village book the area of land under cultivation, showing the cause of any rise or fall, and estimated the current year's outturn compared with the produce of the year before. The sub-division manager, *kamávisdár*, tested the accountants' returns and explanations. In October or November the Collector or his assistant came to the village, and with the chief sub-division revenue officers and the village head man and accountant examined the statements making any remissions or changes that seemed called for. The village rental settled, the next question was, whether the headman should farm the village or simply collect the cultivators' rents. In many cases even when the cultivators' payments were fixed, the headman though he had no chance of gain or risk of loss, to keep up his position nominally

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[1] The villagers had been charged what the manager spent in fighting his family quarrels and the cost of feasts in which only some of them shared. Without interfering with necessary charges the total Nadiád village expenses were reduced from £2350 to £586.—Captain Barnewall, 1st August 1816.

[2] In 1819, of 431,674 acres of alienated land 158,418 were quitrent, and 75,546 rentfree. The rest was either held on service tenure or paid the full or nearly the full assessment. The details were : Mátar 71,564 acres, 29,317 quitrent and 13,059 rentfree; Nadiád 71,675 acres, 26,224 quitrent, and 14,733 rentfree; Mahudha 70,592 acres, 28,228 quitrent, and 10,478 rent-free; Nápád 14,143 acres, 5880 quitrent, and 2739 rentfree; Bhálaj 8431 acres, 245 quitrent, and 1140 rentfree; Petlád 112,070 acres, 39,994 quitrent, and 21,608 rentfree; and Mehmadabad 13.978 acres, 3426 quitrent, and 2253 rentfree.—Bom. Gov. Rev. Rec. 149 of 1820, 460-475.

[3] Bom. Gov. Rev. Rec., 149 of 1820, 394—400.

[4] Bom. Gov. Rev. Rec. 149 of 1820, 387 and 388. Between May 1816 and June 1821, cultivators' liabilities were fixed in 370 out of 657 villages.—East India Papers, III., 685.

farmed the village. Where the cultivators' payments were not all fixed, the headman generally became surety for the village rental, either for one season or for a term of years. To cover his risk of loss, some reduction from the original rental was generally made. In return the headman signed a deed, engaging to collect nothing more than the authorized or customary rates.[1] If for any reason the headman was unwilling to become surety, the village was managed in detail or *kacha* by the Collector, the headman and accountant simply collecting the cultivators' rents.[2]

The management of the first six years (1814-1819) of this period, though successful in bringing to light and putting an end to many abuses, would seem to have erred in unduly raising the Government demand. Marked progress was made in Thásra and Kapadvanj, the poorer and less settled of the 1817 additions.[3] But the plan adopted of leasing Borsad, Mehmadabad, and the other rich tracts to the highest bidders caused much mischief. In the older lands enhanced rates were introduced. These at first lightened by the very high grain prices in 1819 and 1820, in a few years, proved burdensome and had to be reduced.[4]

Mr. Elphinstone, 1821.

In June 1821, Mr. Elphinstone, then Governor of Bombay, visited Kaira. He recorded the following opinions on the state of the district and the general results of British management.[5] The appointment of accountants to the villages of chiefs and other large landlords should cease. Those who had been sent should be called back and ten per cent should be added to the chiefs' share in the rental of their estates. Illegal alienations of village lands, though resumed neither by the English nor by the Marátha Governments, had never been held as a reason for reducing village rentals; some cess should be levied on these lands and the holders' title confirmed.[6] In Government villages the accountants had gained too much power. Care should be taken to keep them to their own duties and not let them take the place of the village headman. The inquiries of the survey then at work in the district should be limited to showing the real state of the land, preventing hidden cultivation, and settling boundaries. From the complications in the existing land

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[1] Only a few members of the head family had the right to sign this deed. Those who had the right were called *matádárs* or signers.

[2] On the appointment of accountants, many villages, that their real resources might be ascertained, were for a time managed in detail by the Collector, the accountants in sharehold villages taking the rental, not in a lump sum from the managers, but from the sharers.—Bom. Gov. Sel., CXIV., 12. Within a few years the system of settling with the manager again became general.—Bom. Gov. Litho. Papers, 149, 1—21, and East India Papers, III., 685.

[3] Large grants of land were made, and eight new villages established.—More's Jamábandi Report of 1820-21.

[4] The Collector (Captain Robertson) in 1819 described the district as on the whole prosperous. The landtax was high, estimated on a basis of one-half of the produce, but there was a very large area of quit and rentfree land. Though there were no men of great wealth, there was no class of landless labourers.—Bom. Gov. Rev. Rec., 149 of 1821, 441. Mr. Elphinstone's account (see the text) bears this out. But in spite of a seeming prosperity, how much the district was overstrained, is shown in several of the survey reports (1820-1826) quoted below. Compare also Bom. Gov. Sel., CXIV., 342; the rates fixed in 1819 pressed so hardly on the *maliki* villages that the people began to desert.

[5] East India Papers, III., 690.

[6] East India Papers, III., 693.

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1821.

settlement, the extreme difficulty of determining the actual value of land, and the small chance of improving the cultivator's state, the survey should make no attempt to fix fresh rates of assessment. The farming of villages to strangers, and, though to a much less degree, the leasing of them to village headmen, gave rise to many abuses.[1] It was better to deal direct with the cultivators, renewing their liabilities from year to year; for, except in the case of rich sharehold villages, leases were ill-suited to their limited resources. The great increase of revenue under British management[2] was chiefly the result not of over-assessment but of indirect causes. Under a steady and kindly rule, husbandmen were free to look after their fields, and their numbers were increased by strangers, soldiers, and others, who in the failure of their former employment had taken to tillage. Many classes paid who formerly escaped payment. The cost of collection was low; fees were few; little or nothing was spent on securities; frauds were checked; and the class of middlemen between the cultivator and Government had disappeared. One or two sections of the district were fully assessed, and half of Petlád might be over-burdened. But no cultivators were leaving the country, or even moving from village to village. Advances were never and remissions rarely asked for; there were no distraints, and seldom a case of imprisonment. It was true that the results of the British rule were not unmixed good. The chiefs and large landholders were weakened and depressed, the district officers and among them the heads of villages were stripped of power and influence, and the men of capital suffered both as traders and money-lenders.[3] But against these evils was to be set the rise of the cultivators, the largest, hardest working, and most orderly section of the community. Many of them were still burdened with debt, and on some, the decrees of the civil courts pressed heavily. But on the whole their state was thriving, their houses handsome and well built, their dress neat, and their fields highly tilled. The British Government had freed the country from the dread of foreign foes and had established order. It dealt even justice and had nearly rooted out force and fraud. Considering the difficulties the success was surprising.[4]

1820-1826. Survey.

The second measure taken to gain greater knowledge of the district was the survey. Its objects were to establish for each village an authentic and permanent record of its lands, dividing them into classes according to their nature and quality. The survey embraced every field, tree, and well, and supplied full details of area, soil, and cost of production. From their village memoirs

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[1] Of the Borsad villages the surveyor Captain Cruikshank says (1821) the system of letting villages by auction to the highest bidders has been found productive of great oppression to the cultivators, of loss to the farmers, and of ultimate decrease in the Government revenue. No single instance has yet been met of a farmer expending money or encouraging agriculture.—Bom. Gov. Sel., XI., 104.

[2] From additions and transfers of land, no statement of this increase is available for the whole district. The figures for the Mahudha sub-division give the following results: 1804, £9374; 1806, £11,983; 1808, £12,145; 1809, £11,501; 1812, £12,809; 1814, £14,867; 1817, £17.004; 1819, £19,244; 1820, £22,230.

[3] East India Papers, III., 694.

[4] East India Papers, III., 687.

European officers drew up sub-division accounts, describing the people and their mode of tillage. Maps were prepared, one for each of the largest villages, and for the smaller a group of two or three on the same sheet. They showed the village sites, boundaries, roads, ponds, and the different sorts of land, cultivated, waste, open, and enclosed.[1] Of the practical usefulness of the survey, Sir John Malcolm wrote 'the Collectors, in preparing their yearly reports, should refer particularly to the survey records; they should draw a comparison between the actual state of their districts and their state at the time of the survey; they should show what progress has been made in correcting errors; they should account for any change in the extent or state of cultivation; and notice any increase or decrease in the number of people, houses, and wells. From such data as these more than the amount of revenue can correct opinions of the real state of the country be formed.'[2] Beginning in 1820 in the Mátar villages in the north-west, the survey worked east, and taking up the Kapadvanj and Thásrá sub-divisions, passed through the central districts of Nadiád and Mahudha, ending in 1826 at Borsad in the south.[3] The information recorded of the state and management of the surveyed districts may be thus summarized.

In the sixteen Dholka, now Mátar, villages surveyed in 1820, of 34,469 arable acres, 23,217 or 67·35 per cent were under tillage. The rental rose steadily from £6129 (Rs. 61,290) in 1818-19 to £6967 (Rs. 69,670) in 1823-24. Though all were measured and treated as Government villages, from seven of them accountants were afterwards withdrawn and their management made over to the owners. Of the remaining villages one was sharehold, and the others simple; the lands of two of them divided on the holding, *khátábandi*, system. The assessment was by crop division and cesses. The survey showed that former measurements had under-estimated the total area by 2302 and the arable area by 4868 acres.[4]

The eleven Mehmadabad villages surveyed in 1821 were part of the 1817 acquisitions. Of 17,555 arable acres, 11,819 or 67·32 per cent were cultivated, and 5736 waste with among them 1057 acres

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[1] Of these survey maps Sir John Malcolm says (15th October 1830), 'they are extremely well executed and afford gratifying evidence of the aptitude of natives under careful instruction to acquire scientific knowledge. Except the colouring most of these plans are the work of their hands. Perfectly at home in the use of the theodolite and other survey instruments, natives on trifling salaries have of recent years performed all the measurements and other field work, formerly solely entrusted to European officers. By this means the yearly cost of the survey was reduced from nearly £10,000 to less than £600.' 'The maps were very neat,' says Bishop Heber who saw them in 1825 (March 25), 'and said to be wonderfully correct though the mapping, measurement, angles, and drawings were the work of native assistants.'—Heb. Nar., II., 140.

[2] Minute of 15th October 1830, para 35.

[3] The details are, in 1820, sixteen Dholka, now Mátar, villages; in 1821 eleven Mehmadabad villages; between 1820 and 1823, thirty-four Daskroi, now Mehmadabad, villages; between 1821 and 1824, forty-five Nadiád villages; in 1824, sixteen Umreth and Bhálaj, now Nadiád, villages; seventy-seven Mahudha villages, of which the reports seem to have been lost; in 1824 and 1825 eighty-eight Petlád, now Borsad, villages; and in 1826, eighteen Nápád, now Borsad, villages.

[4] Bom. Gov. Sel., XI., 51-55.

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1820-1826. Survey.

of valuable rice land. £3348 (Rs. 33,480), the rental in 1818-19, rose to £3617 (Rs. 36,170) in 1820-21, and was then reduced, falling in 1823-24 to £2892 (Rs. 28,920). All the eleven villages were simple, the lands of three of them distributed among separate holdings. Except from rice fields, where the produce was divided, the land revenue was raised by acre rates. During the first four years of British management (1818-1821) these villages were leased to the highest bidder. Though they strained the village resources to the utmost, every one of the farmers lost heavily. In 1823 the villages were taken under the direct management of the Collector, and the rates lowered. Still over-assessed and requiring relief, they were (1826) slowly recovering. Mehmadabad was the only first rate village. Of the rest, five were second class, and five extremely poor and wretched, one without a single tiled house.[1] The survey showed that former measurements had under-estimated the total area by 1905, and the arable by 3258 acres.

In the thirty-three Daskroi, now Mehmadabad, villages surveyed between 1820 and 1823, of 49,898 arable acres, 31,154 or 62·43 per cent were under tillage. The rental rising from £8153 (Rs. 81,530) in 1818-19 to £9143 (Rs. 91,430) in 1822-23, was then lowered to £7486 (Rs. 74,860). A few of the villages were sharehold, the rest were simple, most of them held on lease by their headmen. Rice fields paid in kind; other lands by an acre rate and cesses. Except on some rice lands, the assessment was moderate and likely to promote prosperity; the villages were well built and thriving, and the people happy and contented.[2]

Of the forty-five Nadiád villages surveyed between 1821 and 1824, thirty-six were Government and nine alienated. In the thirty-six Government villages, of 88,083 arable acres, 78,962 or 89·64 per cent were under tillage. The rental rising from £24,419 (Rs. 2,44,190) in 1817-18 to £28,652 (Rs. 2,86,520) in 1820, was in 1822 lowered to £27,742 (Rs. 2,77,420). Of the thirty-six villages, sixteen were sharehold, the rest simple, the lands of several of them distributed into holdings. Except a little crop-division, the assessment was levied by acre rates and cesses. The very high rates on Government land were lightened by the large area held rentfree or on quitrents. The alienated villages, though of the turbulent or *mehvási* class were quiet and tractable, 'steadily practising agriculture.' In other parts the lands were rich, tilled with much care and skill, and the villages large and fine, with full and complete establishments. The survey showed that former measurements had under-estimated the total area by 482, and the arable by 11,027 acres.[3]

The sixteen Umreth and Bhálaj, now A'nand, villages surveyed in 1824, came under British management in 1817. Of 15,426 arable acres, 12,428 or 80·56 per cent were under tillage. The rental £6420

[1] Bom. Gov. Sel., XI., 57-65. [2] Bom. Gov. Sel., XI., 129-140.
[3] Bom. Gov. Sel., XI., 65-81.

(Rs. 64,200) in 1818 rising to £6524 (Rs. 65,240) in 1819, was in 1823 lowered to £5828 (Rs. 58,280).[1] Though with high rates Umreth and Bhálaj were thriving towns, and except some poor and water-lacking hamlets, the villages were little inferior to those of Nadiád.

The eighty-eight Petlád, now Borsad, villages surveyed in 1824, came under British rule in 1817. Of the whole number, eleven were alienated. In the rest cultivation had nearly reached its utmost limit. Of 132,397 arable acres, 101,637 or 76·76 per cent were under tillage. The rental was reduced from £43,457 (Rs. 4,34,570) in 1819 to £38,530 (Rs. 3,85,300) in 1824. Of the Government villages, thirty-three were sharehold, and the rest simple, the lands of eleven of them divided into holdings. The demand from cesses and high acre-rates was both heavy and unequal. Complaints of the oppression practised by the speculators to whom the villages had been farmed in 1817 were very general. Under the strain, many of the sharehold villages had broken, and, though much had been done by later (1823 and 1824) settlements, it was very difficult to restore them. Still the villages were large and well built, and many of the people thriving and well-to-do.[2]

The eighteen Nápád, now Borsad, villages surveyed in 1826, came under British rule in 1817. Of the whole number five and a half were alienated. In the Government villages, of 16,647 arable acres, 14,999 or 90·10 per cent were under tillage. The rental had fallen steadily from £5328 (Rs. 53,280) in 1821 to £4875 (Rs. 48,750) in 1826.[3] Seven villages were sharehold, and the rest simple, the lands of one of them distributed in separate holdings. Though, as in Petlád, they had suffered during the first years of British rule, the people were on the whole well-to-do.

The following statement contrasts the tillage area, resources, and revenue of the different parts of the district surveyed between 1820 and 1826.

Kaira Survey Details, 1820-1826.

No.	Sub-division.	Villages.	Per cent of arable land tilled.	Average per square mile.					
				Houses.	Souls.	Horned cattle.	Ploughs	Carts.	Revenue in £.
1	Mátar (Dholka) ...	16	67·35	63	215	132	29	8	102
2	Mehmadabad ...	11	67·32	62	257	107	20	6	99
3	Do. (Daskroi) ...	33	62·43	61	216	175	27	8	89
4	Nadiád	36	89·64	102	397	189	34	19	169
5	A'nand (Umreth and Bhálaj)...	16	81·20	183	706[4]	236	30	30	226
6	Mahudha	76	79·59	78	303	223	33	15	141
7	Borsad (Petlád) ...	77	87·79	88	348	187	29	16	201
8	Do. (Nápád) ...	12½	90·09	108	429	217	36	19	175

[1] Bom. Gov. Sel., XI., 81-86. [2] Bom. Gov. Sel., XI., 87-108.
[3] Bom. Gov. Sel., XI., 108—115. [4] This because the town population is included.

Chapter VIII. Land Administration.

1825-1830. Condition.

During the years 1820-1826 when the survey was in progress, though in some special cases reductions were made, the continued high value of grain prevented the rates from being generally burdensome.[1] Of the general state of the district in 1825, Bishop Heber has left the following note. 'I asked the Collector Mr. Williamson if the Government were popular. He did not think it was particularly otherwise and ascribed the various tumults and risings of the Gujarátis to their famines which frequently reduced whole families and villages to the state of broken men, and to their long previous habits of misrule and anarchy, rather than to any political grievance. The valuation of the land was moderate. It was only from year to year. But where the crops were so precarious, a longer settlement was not desired by the people themselves. Even in the present system, Government had often to make great abatements and on most occasions had shown themselves indulgent masters.'[2] In 1826 a fall of produce prices set in and rapidly increased till the collapse of 1831. In 1826 Kapadvanj is described as in a wretched state, the people badly housed, badly clothed, and badly fed. Mahudha, one of the richest parts of the district, showed signs of distress.[3] To meet these difficulties rates were considerably lowered, and by postponing the dates of revenue instalments further relief was given.[4] In the next year (1827) after a further reduction of rates all complaints ceased.[5] A good season followed, and, though 1828-29 was a year of poor harvest and low prices, no further reductions were necessary.[6] During these years, besides by lowering his rents much was done to improve the cultivator's position by granting holdings at fixed rates and leases. Sharehold villages were increased by fifty-nine, many new holdings, *khátás*, were formed, and a large number of short-termed village leases granted.[7] In 1830 the district was visited by Sir John Malcolm, then Governor of Bombay. His route by Nadiád, Mátar, and Dholka, led him through great part of the district 'for its extent one of the finest in India.' The beauty and fertility of the country, the size and prosperous appearance of the villages, the enclosed fields a succession of rich and varied tillage, the sleek cattle and well-clothed people all seemed thriving and contented. More than any part of the Presidency, the revenue system showed the good points of a direct settlement, with few of its defects. The rates generally

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[1] Average millet prices in the seven years ending 1826, were 41 pounds; in 1827, 58; in 1828, 65; in 1829, 81; in 1830, 70; in 1831, 100.

[2] Heb. Nar., II., 145.

[3] The condition of sharehold villages would also seem to have been much depressed. In 1826, of eighty-seven villages the sharers in eleven were in good circumstances, in thirty-six middling, and in forty poor, with just means enough to keep up their tillage. —Bom. Gov. Sel., CXIV., 156, Footnote.

[4] Formerly two-thirds had been taken at the beginning of the year and the rest before the grain was threshed.

[5] These reductions were chiefly carried out by Mr. Williamson. See his Jamábandi reports for 1826 and 1827.

[6] Mr. Mills' Jamábandi reports for 1827-28 and 1828-29. Mr. Mills hoped that few villages were now over-assessed.—Bom. Gov. Sel., CXIV., 159.

[7] Of 199 villages leased, 177 were on terms of from five to eight years.—Mr. Williamson's Jamábandi report, 29th October 1827.

fixed on the *bigha* were well-known, the village account books showing in detail each holder's liabilities. Many villages were held on leases of seven years and under. The village headmen through whom the settlements were almost always made, were bound to levy nothing beyond the established rates. Though seldom wealthy, they generally possessed considerable credit and means, and were said, by remissions and advances, to help the cultivators. Compared with the Deccan, the Kaira system had the great advantage, that the village settlements were made by the Collector or his assistant in person. Many cultivators were present and any change in assessment was directly discussed. In Sir John Malcolm's opinion, as far as possible, things should be kept as they were. At the same time, much mischief had, he thought, been done by subjecting alienated land to assessment. Besides giving rise to misery and ill-feeling, the measure had added greatly to village payments. From the fall in the value of field produce, rents were hard to collect, and though not prepared to advise a general reduction, Sir John Malcolm felt that the rates were high, and ought in some cases to be lowered. The cultivator's condition should, he wrote, never be lost sight of. For a time they may go on paying a high rent, but the strain must gradually impoverish them, and in the end will cause a sudden, large, and inevitable defalcation in the public revenue.[1]

1830-1854.

The end was not far off. In the next year (1831) the cultivating classes were crushed by a further fall of thirty per cent in produce prices. Tobacco, the chief rent-paying crop, was a drug in the market and the failure to pay the revenue was so general, that in 1831 the Collector was inclined to question the wisdom of the revenue system, only a year before so highly praised. The crisis had shown how little the bulk of the cultivators were removed from poverty. With the object of raising a class of well-to-do landholders, the Collector proposed that the village shareholders should be made more independent, village accountants withdrawn, the Government demand lessened, and the sub-tenants left in the shareholders' hands.[2] Next year things were worse. The revenue fell from £193,407 to £176,404 (Rs. 19,34,070 - Rs. 17,64,040), and the year closed with an outstanding balance of £70,818 (Rs. 7,08,180), of which £50,818 (Rs. 5,08,180) were for the past and £20,000 (Rs. 2,00,000) on account of previous years. Distraints for debt were common, and in the Collector's opinion poverty was undermining the district resources. Remissions were freely granted, rents lowered by about £10,000 (Rs. 1,00,000), and though one of

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[1] Bom. Gov. Litho. Papers, 148, 1.

[2] Jamábandi Report of 1830-31. The reality of the distress has been questioned. (Bom. Gov. Sel., CXIV., 159). But the following extracts shew how severe it was. Poverty is present in every class of cultivators to an extent that tends to impair the efficiency of the revenue system of management and undermine extensively the resources of the state. In spite of the steady reduction of burdens in the last ten years, the bad state has grown worse.—Mr. Mills, 259, 24th August 1832. Bom. Gov. Rev. Rec. 482 of 1833,79. All cultivators are encumbered with debts, and the working of the civil courts is attended with much hardship.—Bom. Gov. Rev. Rec. 482 of 1833, 79, 93.

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them (1833-34) was a year of much local scarcity, the fourfold rise of prices in 1834 and 1835 relieved the bulk of the cultivators from their most pressing difficulties.[1] The next seasons, with fair crops and high prices, reduced the outstanding balances from £70,000 to £30,000. But the fact that of 308 villages whose leases then fell in, a hundred were stationary, 132 worse, and only seventy-six better, shows through how severe a trial the district had passed.[2] Next year (1838-39) the crops were poor. But with rising prices outstandings were smaller, billets, *mohsals*, were reduced from 4416 in 1835 to 847, and the revenue realized without distraints or sales.[3] During these years (1830-1840) the district benefited much by the drainage of the lowlands in its southern and western villages. Between 1838 and 1844 measures were taken to remove the plough and other minor cesses,[4] to introduce acre rates and individual holdings in parts of the district where the old crop division system still prevailed, and to offer leases to individual landholders.[5] The Kaira plough, *hal*, cess was a tax on ploughs only in name. It was really a charge levied chiefly on rentfree and quitrent lands. The Collector did not abolish it, but in some cases transferred the amount as a charge on rentfree lands, and in others added it to the assessment on full rent paying fields.[6] 1839 was a season of high prices. The revised acre rates, fixed by village committees on a consideration of the character of the soil and of the position of the holder, differed from the acre rates introduced in 1814-1819 by including the amounts due on minor cesses.[7] The number of separate holdings was, as far as possible, increased. Of these some paid only when tilled, in others no provision was made for fallows. At the same time, leases for a term of years were granted to all substantial landholders who wished to have them. These measures do not seem to have been altogether successful. In most of the next fifteen years (1841-1855) large remissions had to be granted, and few seasons closed without a considerable balance of unrealized revenue.[8] The leases, fixed at too high a rental, impoverished the holders, and by the need for remissions caused loss to Government.[9] When they fell in, they

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[1] Millet, *bájri*, prices rose from 120 pounds the rupee in 1832 to 30 in 1834 and 35 in 1835. 1834 was a season of 'extraordinary difficulty.' No rain fell till November, and though there was a good cold weather crop, there was a loss of 30,000 bullocks and a fall in the revenue of £42,732.—Jamábandi Report, 1833-34.

[2] Jamábandi Report, 1835-36. Another measure of relief was to restore alienated lands. In 1836 the Collector restored many lands under the provisions of Act VI. of 1833.—Bom. Gov. Sel., CXIV., 511.

[3] Jamábandi Report, 1839-40.

[4] Government letter 1401, 12th April, 1838.

[5] Bom. Gov. Sel., CXIV., 419,495—498.

[6] The Collector threw on the alienated lands the portion of the cess not absorbed by the new assessment of the Government lands in each holding.—Bom. Gov. Sel., CXIV., 112, 502. Of a total of £1392 only £136 were remitted.—Bom. Gov. Rev. Rec. 52 of 1856, 113.

[7] Bom. Gov. Sel., CXIV., 419, 420.

[8] The largest remission in any year between 1841 and 1851 was £7500. For the five years ending 1853-54 the remissions were, 1849-50, £829; 1850-51, £4294; 1851-52, £1399; 1852-53, £579; 1853-54, £2588. The outstanding balances were, in 1849-50, £2825; in 1850-51, £3960; in 1851-52, £2408; in 1852-53, £2958; in 1853-54, £2517.—Collector's 48A, 31st July, 1855.

[9] Bom. Gov. Rev. Rec. 52 of 1856, 140.

were not renewed. The additions made on the abolition of the plough cess unduly raised the rates on many holdings.[1] And though none of the sharehold villages broke under the strain, their rentals in some cases were greater than they could well bear.[2] The difficulty found in paying the rates was probably chiefly due to the fall of produce prices from 46½ pounds in the ten years ending 1842 to sixty-eight pounds in the thirteen years ending 1855.

1854. Alienations.

Of the state of the district in 1854 and 1855, the Collector, Mr. Elphinston, has left a detailed account.[3] In 1854 there were, besides five towns with a population of over ten thousand souls,[4] 569 villages varying from 500 to 2000 inhabitants. There were also, chiefly in Thásra and Kapadvanj, 446 hamlets with from twenty-five to a hundred houses and from 100 to 300 inhabitants.[5] Most of the houses were tiled. Only the poorest and lowest classes lived in thatched huts. Of the 574 villages and towns, twenty-seven were wholly alienated, forty partly alienated, and 507 belonged to Government. The lands of the alienated villages, except in a few where produce division still prevailed, were, by their Rajput, Koli, and Musalmán owners, let on money rents. The quiet of many years had done much to better their state. But, though among the owners some were improving their lands, they were as a class indebted, and especially the *kasbátis*, lazy and unthrifty. Such of them as were free from debt were said to treat their tenants well, taking the revenue in kind, allowing delay and irregularity in the payment of rent, and needing no Government help to recover their dues. The thirty-eight *mehvási* villages were held by Rajput and Koli chiefs. Though as a rule moderate, in some cases the Government share nearly swallowed up the entire village revenue. Their lands rich and capable of improvement were in a declining state. The holders were illiterate, lazy, fond of opium, careless, extravagant, and sunk in debt. The affairs of most of them were in the hands of Vánia stewards more alive to their own than to their master's interests.

Sharehold villages.

Of a total of 452,209 acres of Government land yielding a rental of £144,431 (Rs. 14,44,310), 77,933 acres paying £40,537 (Rs. 4,05,370), or more than one-sixth of the area and one-fourth of the rental, were included in sharehold, *narva*, villages. Though some were overtaxed, no case had for years occurred of a sharehold community breaking under the weight of the Government demand. Many of the sharers did not work with their own hands. Others let out part of their share, tilling the richest fields by the help of relations and servants. Their position was better than that of other cultivators. An alliance with their families was much sought after,

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[1] Bom. Gov. Rev. Rec. 52 of 1856, 115—117.
[2] Bom. Gov. Rev. Rec. 52 of 1856, 126.
[3] Bom. Gov. Rev. Rec. 52 of 1856 and 29 of 1858.
[4] The five towns were Nadiád, 20,782 souls; Umreth, 13,652; Kapadvanj, 12,428; Kaira, 12,091; and Mehmadabad, 10,516.
[5] Except a few established by *pátidárs* to reclaim waste lands, these were chiefly Koli hamlets.

Chapter VIII. Land Administration. 1854.

and the competition for the estate of a childless shareholder was keen. Freer than other cultivators from the risk of an enhanced rental, they spent much capital and labour on their land.[1] Still their condition was not satisfactory. Expensive in their style of living, many had mortgaged or sold part of their shares, and from the remainder were ill able to meet the heavy Government rent. The shareholders' lands were let to men of two classes, hereditary tenants and tenants-at-will. The hereditary tenants, chiefly of the sharehold or *pátidár* class, held securely and for the most part at fixed rates; the tenants-at-will had no rights. At the landlord's pleasure their rents might be raised, or their fields taken from them. Both paid at rates considerably above the Government assessment. But complaints of rack-renting or harshness were rare. Frugal in their life, some throve better and were further from want than the shareholders. But in 1854, chiefly from the fall in the value of rich crops, on most their rents pressed hard. Less well-to-do than formerly, they had in many cases to borrow to meet the cost of tillage, and when court decrees were executed against them, little property was generally found.[2]

Simple villages.

In simple villages, though quit or rentfree lands had from twenty to twenty-five per cent less waste, they were inferior to full rent lands in cultivation.[3] The original share, *vánta*, and religious, *pasáita*, lands were, except those held by village servants, as a rule minutely divided and sold or mortgaged. Lands alienated by village managers paid rates varying from a few pence the acre to the full Government assessment.[4]

In the Government lands of simple, *senja*, villages, the lease system introduced between 1838 and 1844 had been almost entirely given up.[5] The lands were partly held from year to year by tenants paying on the area tilled, and partly distributed into allotments, *khátás*, the holder liable for the same rent, whether or no his whole allotment was cultivated.[6] Except in a few villages where the crop-rate, *tulvári*, system was in force, lands were assessed at the old village committee money rates depending on the condition and

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[1] Mr. Mackay's statement (Western India, 106) that from uncertainty about their rent they spent nothing in improvements, though to some extent it may have been true of the Broach shareholders, did not apply to the Kaira *narvádárs*.

[2] Mr. Mackay's statement that shareholders sometimes charged 200—300 per cent in excess of Government rates is said by the Collector not to apply to Kaira.

[3] Cultivators were said to get quitrent lands at specially low rates by threatening only to till Government fields.

[4] Of *vánta* lands 55,434 acres, with an estimated rental of £21,826 paid a yearly sum to Government of £5660 at rents varying from 6*d.* to 10*s.* an acre. Of religious, *pasáita*, lands, a total area of 66,795 acres yielded an estimated yearly revenue of £25,349. Of this 24,347 acres were held on service tenure, and of the rest, 34,787 were rentfree, and 7658 paid aggregate quitrents of £1685. Of lands sold by village managers, a total area of 173,760 acres paid £31,743 out of a total of £71,836—Bom. Gov. Rev. Rec. 52 of 1856, 95.

[5] Leases are said to have harmed the lessees whose receipts fell short of their rental and forced Government to grant large remissions.—Gov. Rev. Rec., 52 of 1856, 140.

[6] Of 200,332 acres of Government lands in simple villages, 2492 were leased, 34,505 included in holdings, 71,246 held on running leases, and 92,089 let out to tenants-at-will.

caste of the cultivator as much as on the soil; these rates varied much[1] and were further complicated by being expressed in a variable land measure, the *ásra* or estimated *bigha*. This estimate generally larger, but in some cases smaller than the actual measurements, would seem to have been fixed with reference to the kind of soil as much as the size of field.[2] Tenants with distinct holdings always paid the same rent. But the rents of cultivators who were charged only on the land under tillage varied from year to year. As soon as the rains were over, the village officers drew up a return of the area cropped. This statement, checked by the mámlatdár and native district revenue officers, fixed the amount cultivators of this class were liable to pay. When remissions were claimed, the crop was left standing and valued by the mámlatdár. The results were examined by the Collector or his assistant, and as a rule the produce was equally divided between Government and the cultivator. On the whole, the assessment was moderate, averaging over the entire cultivated area an acre rate of from 5*s.* to 6*s.* (Rs. 2½-Rs. 3 a *bigha*). But in some villages the want of any abatement of rental on account of fallows, the levy of cesses in addition to the assessment,[3] and family rivalry for the possession of land, had unduly raised the Government share.[4] Added to this, a double currency, their rents paid in Government and the price of their produce realized in Baroda rupees, caused a loss to the cultivators of sixteen per cent.

Simple villages.

The great body of the cultivators were in a depressed state. The cheapness of grain left from ordinary dry crop tillage little margin of profit, and the demand for tobacco, in former years the chief rent-paying crop, had greatly fallen.[5] In most villages the *pátidárs* or leading members of the village community were men of substance. Of the Kanbis, a few of good credit and thrifty habits had some store of money. But most of the Kanbis and almost all Kolis and Musalmáns were badly off. Their stock of field tools was scanty, and they had either no bullocks at all or only one.[6]

Condition.

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[1] In 1865 the survey officers found in Nadiád, soil nearly identical in value charged at rates varying from £1 9*s.* 5½*d.* to 1*s.* 9*d.*—Bom. Gov. Sel., CXIV, 157.

[2] The use of the actual measure was sanctioned, but not generally carried out in 1853.—Gov. Res. 1744, 20th June 1853.

[3] Besides the plough cess noticed above, Mr. Elphinston mentions a holding, *khâta vero*; an arms, *dhárála vero*; a groundrent on Kanbis who had built on Khánt Kolis' land, *khánta vero*; a tree cess, *jhád vero*; a personal charge, *savádia*, when any but the owner tilled rentfree or quitrent land; a charge for tilling in another village, *pargana savádia*; for leave to cut crops, *raja vero*; to make up deficiencies, *udhár vero*; for tilling too little land, *khoti vero*; and on cold weather crops, *rávni upaj*.—Bom. Gov. Rev. Rec., 52 of 1856, 119.

[4] Rivalry in some cases raised rates to £3 16*s.* an acre (Rs. 19 a *bigha*).

[5] Mr. Mackay thus describes the effects of the very low prices of grain: The 30th April (1851) is at hand, the day on which the last instalment is due. The cultivators are at a loss to know how to meet the demand. Their crops have been abundant, but they have no market, and the surplus left in the district makes prices unusually low. (Mackay's Western India, 31).

[6] Most of the Kanbis were reduced to poverty by the great sums of money they spent to marry their daughters into high families. Mr. Mackay (1850) goes even further; 'the mass of the cultivators are so poor that they hire not only bullocks but tools.' Western India, 120. The surplus of the Kolis' fields generally went to the money lender; their store gone before the end of the cold season, during the hot season they lived on fruits and wild vegetables. The Musalmán cultivators were as a class sunk in debt.

Chapter VIII. Land Administration. 1863-1867. Second Survey.

In the Collector's opinion (1854) the state of the district called for early remedies. The extra cesses should, he thought, be taken off, the Baroda currency withdrawn, and export dues removed so as to encourage the growth of cotton[1] and provide a market for the produce of the district.

During the next ten years (1855-1864) the marked rise of produce prices greatly improved the condition of the cultivating classes.[2] The two chief changes of this time were, the making of a railway to Bombay (1860-1864), and in 1862 the introduction of a fresh survey. To this survey besides the remeasurement and reclassification of lands, was entrusted the work of fixing fresh rates of assessment. During the five years (1863-1867) of survey operations,[3] the great rise of prices due to the American War,[4] the opening of the line of railway to Bombay (1864), and, except 1864, a succession of good harvests [5] raised the bulk of the Kaira peasantry to a very high level of wealth and prosperity. Except in the north and north-east, where there was a considerable area of poor untilled land, and in a few villages in the rough tracts near the Mahi, the whole district was under cultivation. The country was rich and highly tilled and the villages well built with every sign of plenty and comfort,[6] the land revenue was realized without difficulty, and remissions were nominal.[7]

The Maliki villages (1863) of the Thásra sub-division, formerly the poorest and least settled part of the district, showed a marked advance in prosperity. By the establishment of fresh hamlets, their number had risen from seventeen in 1821 to twenty-seven; the population was 277 to the square mile; tillage had chiefly in the five years ending 1863 spread thirty-four per cent, and the average remissions were only half a per cent. Several of the villages were large with good

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[1] Cotton had risen from Rs. 80 a *khándi* in 1846 to Rs. 105 in 1851.

[2] The average price of millet in the five years ending 1855 was 73 pounds for a rupee; the average price of millet in the five years ending 1861 was 48 pounds the rupee.

[3] The dates were: Mahudha, now A'nand, surveyed in 1863; Mátar, now Mehmadabad, Kapadvanj, and Thásra, in 1864; Nadiád in 1865; and Borsad in 1867.—Bom. Gov. Sel., CXIV., 152, 255, 411, 591, 666, 687.

[4] The price of millet, compared with forty-eight in the five years ending 1862, was twenty-five pounds the rupee in the five years ending 1867.

[5] 1862, rainfall enough and timely, harvest good, millet forty pounds the rupee; 1863, early rain and harvest good, late rain and harvest short, millet nineteen pounds; 1864, early rain enough, late failed, harvest poor, millet fifteen pounds; 1865, rain enough and timely, harvest good, millet twenty-three pounds; 1866, early rain good, late wanting, harvest on the whole good, millet thirty-two pounds; 1867, early rains good, late rains wanting, harvest on the whole poor, millet twenty-four pounds.

[6] Mátar (1862) had a good deal of waste black soil (Bom. Gov. Sel., CXIV., 441); Mahudha (Dec. 1863) very rich in the south and west, was poorer in the north and east, with vast plains of waste land (594); Kapadvanj (Nov. 1864) was rich and park-like throughout (700); Thásra (Nov. 1864) poor in the north, in the south was rich and well wooded (668); Nadiád (Nov. 1865) and Borsad (Oct. 1867) except a few villages near the Mahi were throughout extremely rich; 143—258.

[7] The remissions in Thásra and Kapadvanj are not given. In Mátar during the 23 years ending 1862, they averaged 1·66 per cent (Bom. Gov. Sel., CXIV, 421); in Mahudha during 23 years ending 1863 they averaged 1·51 per cent (624); in Nadiád during 20 years ending 1865, they were less than one per cent (155); and in Borsad in 21 years ending 1866 were not much over one per cent (267).

markets; the houses brick-built with tiled roofs. On the whole, they could bear comparison with the best parts of Thásra.[1]

In 1862 there were in all ninety sharehold, *narva*, villages. Their rents had remained unchanged for years, and with special opportunities for taking advantage of the great rise in produce prices, they would seem to have become the richest villages in the district.[2] The sharers were the most thriving class of cultivators, many of them tilling their fields entirely by hired labour.[3] Both their permanent tenants and their tenants-at-will were well-to-do.

The condition of the cultivators of simple villages, except a poor unthrifty class in Thásra and Kapadvanj, was excellent. In Mátar (1862) the people were generally extremely well off, comfortably clothed, and well-housed. The Kanbis were as a class very wealthy, and many of the Kolis, nearly as skilful and hard working as Kanbis, had good houses and large agricultural stock.[4] In Mahudha (1863) the Kanbis and Talabda Kolis were 'substantial farmers, fast gathering wealth.' But the Musalmáns as a class were unthrifty, and the Chuvália Kolis in the east were very poor and unsettled.[5] In Kapadvanj and Thásra (1864), though there was a considerable class of very poor Kolis sunk in debt, who to till their fields had to club their stock and in the hot weather had the barest means of living,[6] the main body of the cultivators had large store of money and stock, good houses, and rich clothes and jewels.[7] In Nadiád (1865) and Borsad (1867) population was beginning to press rather heavily on the land. But only a few were poor or unthrifty, the rest were prosperous and well off.[8]

The limited area of the original survey (1820-1825) and the changes introduced from time to time in the distribution of villages make impossible any complete statement of the development of the district. From the materials available, it would seem that in Mátar, in seventy of ninety-seven villages, during the forty years ending 1862, cultivation had spread from 37,437 to 43,890 acres or 14·7 per cent; population from 43,271 to 64,182 or about 40 per cent; ploughs from 4859 to 6649 or 26·5 per cent; and wells from 913 to 1030 or 12·8 per cent.[9] In fifty-eight of the 103 Mahudha villages, during the forty years ending 1863, cultivation had spread from 41,930 to 49,400 acres or 17 per cent; population from 39,551 to 59,061 or 49 per cent; ploughs from 4749 to 6815 or 43 per cent; and working wells from seventeen to 538 or 133 per cent.[10] In the seventy-six Kapadvanj

[1] Bom. Gov. Sel., CXIV., 357.
[2] In 1865 the most flourishing villages of Nadiád were sharehold.—Bom. Gov. Sel., CXIV., 151.
[3] Bom. Gov. Sel., CXIV., 1, 27, 30, 31. [4] Bom. Gov. Sel., CXIV., 418.
[5] Bom. Gov. Sel., CXIV., 602.
[6] Bom. Gov. Sel., CXIV., 693, 709, 713. In Kapadvánj the Kanbis also are said to be more or less in the Vániás' hands, 7, 13.
[7] Bom. Gov. Sel., CXIV., 664, 670.
[8] The people of Nadiád are as a whole described as well-fed, well-clothed, well-housed, with all the necessaries of life, and daily growing in wealth.—Bom. Gov. Sel. CXIV., 148. In the north and north-east. the condition is noticed as inferior (156), and one village is mentioned as being only a few huts (166). So too in Borsad some villages near the Mahi were chiefly in the hands of poor Kolis (269).
[9] Bom. Gov. Sel., CXIV., 420. [10] Bom. Gov. Sel., CXIV., 624.

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villages, during the twenty years ending 1864, tillage had spread 71 per cent, and in the ten years before 1864, population had risen 16 per cent.[1] In the fifty-three Government Thásra villages, tillage had in the twenty years ending 1864, spread 34 per cent. In five of the villages, houses had, in the forty years ending 1864, increased from 3428 to 6115 or 78 per cent; people from 13,231 to 16,152 or 22 per cent; draught cattle from 3077 to 4643 or 51 per cent; and ploughs from 356 to 756 or 112 per cent.[2] In forty-seven of the seventy-three Government Nadiád villages, during the twenty years ending 1865, tillage had spread from 83,599 to 87,868 acres or five per cent.[3] In the forty years ending 1864, houses had increased from 16,174 to 26,316 or 62 per cent; people from 62,829 to 81,638 or 29 per cent; cattle from 30,356 to 42,147 or 38 per cent; ploughs from 5298 to 5750 or 7 per cent; and wells from 380 to 518 or 73 per cent.[4] In eighty-six Borsad villages, during the twenty-one years ending 1866, tillage had spread from 110,554 to 113,510 or an increase of two per cent.[5] In the forty years ending 1866, houses had risen from 20,373 to 35,894 or 27 per cent; people from 80,616 to 101,874 or 20 per cent; cattle from 42,750 to 69,740 or 62 per cent; carts from 3764 to 6029 or 60 per cent; ploughs from 6843 to 6863 or 29 per cent; and wells from 1125 to 1589 or 70 per cent.[6]

The chief changes introduced by the second survey were the fixing of uniform cesses on alienated lands, and, from Government lands the removal of uncertainty in the land measure, of complexity in tenures, and of arbitrary and unfair variations in rates. Thirty of the *mehvási* villages originally held by Koli and Rajput chiefs were left unsurveyed and no change was made in the amount of their yearly payment to Government. The cesses on alienated lands were of three classes, quit, or *salámi*, rents, occasional, or *savádia*, rents, and other cesses. The quitrents on alienated lands were of two kinds, fixed and variable. Of fixed quitrents, there were the *udhad salámi* or lump assessment on a whole estate generally of *vánta* land; the *káyam salámi* or fixed assessment on a field; and a charge for a written permit to cut crops or *chitiáman*. Of changing quitrents, there were a cess or *salámi*, the amount depending either on the area under tillage, the season, or the crop; of occasional cesses or *savádia*,[7] there were two, a personal cess or *khedu savádia* depending on the caste of the tiller and whether he was a tenant or the holder of the alienated land, and a crop or *máliát* rate on valuable produce. Of other cesses, the chief were a plough cess, *hal* or *sánthi vero*, varying from a few annas to thirty

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[1] Bom. Gov. Sel., CXIV., 692. [2] Bom. Gov. Sel., CXIV., 671.
[3] In 1865, ninety-six per cent of the total area was under cultivation.
[4] Bom. Gov. Sel., CXIV., 140—155.
[5] In 1866, eighty-six per cent of the total arable area was under tillage.—Bom. Gov. Sel., CXIV., 265.
[6] Bom. Gov. Sel., CXIV., 255—265.
[7] These, though not unknown to them, were little used by the Maráthás. They were in most cases introduced by British Collectors, either to raise a revenue from alienated lands or to prevent alienated lands being let at less than Government rates. —Bom. Gov. Sel., CXIV., 491.

rupees[1]; a tax on the armed classes, *dhárála vero*[2]; a buffalo shed tax, *masvári vero*[3]; house site, *gharjamin*, tax; a watchman's cess, *rakhopa*; *patel's* allowance, *sukdi*; a watch cess, *kháti pálva vero*; a fruit tree cess; and a water, *piávo*, cess. Under the arrangements adopted for settling these cesses, many of the smaller ones were given up. Of the more important, the fixed quitrent, *udhad salámi*, was distributed over the different fields of the estate in proportion to the survey assessment of each. The field cess was continued, calculated on the actual and not on the estimated area. The amount of the reaping permit, *chitiáman*, cess was laid as a quitrent. The changing quitrents were fixed on the average of twelve years' payments. Among occasional cesses the personal, *khedu savádia*, was imposed as a permanent quitrent, in proportion to the assessment on the field.[4] In the case of the crop, *máliát*, cess, the average of twelve years' payment was put on the field, on the condition that if for any reason rich crops could not be grown, the charge should cease.[5] So much of the plough cess as was not absorbed in the new rates was thrown on the quitrent and rentfree fields of the holding.[6]

In the Government lands, the chief points calling for change were the uncertainty of the land measure, the want of uniformity in the tenures, and the variety in rates. The land measure in use was, as noticed above, the *ásra* or estimated *bigha*, which though generally larger than the regular *bigha* varied to some extent according to the position and wealth of the landholder. For this the actual measurement was in every case substituted.[7]

As regards tenures the many varieties were reduced to two simple forms, one of joint responsibility in sharehold, and one of personal responsibility in simple villages. The sharehold, *narva*, tenure[8] was carefully preserved, but the complications and peculiarities found in almost every village were, as far as possible, removed. The total demand from each village was fixed at the full amount of the survey assessment on its cultivated and waste sharehold lands, together with a quitrent of one-quarter of the survey rate from all land alienated by the village community.[9] According to the wish of

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[1] The plough tax generally rose in proportion to the amount of free and quitrent land.—Bom. Gov. Sel., CXIV., 494.

[2] Chiefly on Kolis, sepoys, and Rajputs, because they had much rentfree land.—Bom. Gov. Sel., 503.

[3] The origin of this name is not known. According to one account *masvádi* means a pregnant woman.—Bom. Gov. Sel., CXIV., 551. It was a Municipal cess.

[4] In Mehmadabad the cess was in proportion to what the land had paid in the past twelve years. But this was altered by Government.—Bom. Gov. Sel., CXIV., 492, 559, 564, 578.

[5] Bom Gov. Sel., CXIV., 541.

[6] Bom. Gov. Sel., CXIV., 502, 565.

[7] The estimated *bigha* would seem to have been, as a rule, larger than the actual measurement—Bom. Gov. Sel., CXIV., 424, 614.

[8] Bom. Gov. Sel. CXIV., 64.

[9] Land mortgaged or sold was, if the sharers thought they could redeem it, treated as part of the sharehold estate. In other cases on paying one quarter of the full survey rent, the alienee's possession was guaranteed—Bom. Gov. Sel. CXIV., 67, 87, 93, 97, 136.

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the majority, the members were allowed either to keep their former share of responsibility, or to put in its place the amount of the survey assessment on the lands they held.[1] The relations between shareholders and tenants were, as far as possible, unchanged. The rights of permanent tenants were carefully recorded and strictly upheld, but beyond what they could claim under their leases, tenants-at-will received few privileges.[2] As under former arrangements, sharehold villages were charged higher rents than simple villages, the new system in most cases reduced the amount[3] they were called on to pay. In simple villages the chief object of the survey was to introduce one form of tenure and one set of rates. The different varieties of holdings[4] were reduced to the guarantee of possession for thirty years, subject to the payment of rental.

As to assessment rates, the object was, as far as possible, to fix them solely on the value of the land.[5] But as former rates depended almost as much on the character of the holder as on the character of the soil, the new system would have had the effect of greatly raising the rents of Koli, Musalmán, and other unthrifty husbandmen. It was in most cases possible on other grounds to lower the rates charged to men of this class. But to prevent hardship, the rule was made that the rise should not in any case be more than fifty per cent.[6]

The financial result of the survey was, as shown in the following tabular statement, an increase over the whole district of 11·25 per cent in the Government land revenue.

Survey Financial Statement, 1863 to 1867.

Sub-division.	Year of settlement.	Ten years' average collections.	Collections of the year before settlement.	Year of Settlement.				Increase per cent.
				Old System.		Survey System.		
				Total collections.	Rate per acre.	Total collections.	Rate per acre.	
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Mahudha ...	1862-63.	1,70,264 8 0	1,81,910 0 0	1,90,739 6 8	3 0 11	2,03,487 5 6	2 12 1	6¾
Mátar ..	1862-63.	1,74,085 11 9	1,97,682 9 6	2,02,765 13 9	3 8 10	2,41,071 6 0	3 11 0	19
Nádiád ...	1865-66.	2,15,017 14 1	2,19,038 14 1	2,13,132 1 1	4 2 1	2,30,515 13 0	4 6 2	8¼
Borsad ...	1866-67.	3,19,100 0 4	3,23,469 1 4	3,19,455 1 2	4 12 4	3,28,913 1 3	4 14 3	3
Kapadvanj...	1863-64.	64,742 8 9	75,342 12 4	72,844 1 9	1 9 4	1,00,353 0 3	1 8 0	37¾
Thásra ...	1863-64.	1,33,411 5 0	1,47,600 13 11	1,44,511 4 3	2 12 3	1,66,806 11 3	2 6 8	15¼
	Total.	10,76,621 15 11	11,45,044 3 2	11,43,447 12 8	3 6 4	12,71,147 5 3	3 3 4	11

The A'nand and Mehamadabad sub-divisions were formed in 1869 and Mahudha absorbed.

[1] Bom. Gov. Sel., CXIV., 280, 306.

[2] Bom. Gov. Sel., CXIV., 94, 97.

[3] Bom. Gov. Sel., CXIV., 63.

[4] Details of the different forms of tenure have been already given. They are thus summarized by Mr. Pedder: Old holdings with over assessed, *vehta*, land and lands nominally quit or rentfree; holdings including quit and rentfree lands assessed under Reg. XVII. of 1827 IV. 4; holdings first put together by British Collectors in which quit and rentfree lands paid indirectly by the special rates on the other land; and holdings made up by Collectors with no quit or rentfree lands the total demand being nominally levied according to the value of the estate.—Bom. Gov. Sel., CXIV., 525.

[5] On fields in almost every respect similar, rates varied in Mátar from Rs. 9-14-8 to Rs. 1-10-6, and in Nadiád from Rs. 14-11-7 to Rs. 0-13-10.—Bom. Gov. Sel., CXIV., 423, 157.

[6] Bom. Gov. Sel., CXIV., 452.

Since the survey (1868-1877) the only fresh land administrative measure was in 1877 the passing of an act (Act XIV. of 1877) for the relief of indebted Thákors. The class for whom this measure was most required were the superior landholders whose estates, excluded from the revenue survey, were continued to them on the payment of a lump, *udhad*, assessment. These men almost entirely representatives of the unruly Rajput and Koli Mahi chiefs,[1] partly from their careless and unthrifty management, and partly from the practice of subdividing family estates, had as a class become hopelessly indebted. Up to November 1878 the provisions of the Act had been applied to thirty-three estates. A sum of £3471 (Rs. 34,710) had been advanced by Government and debts amounting to £5446 (Rs. 54,460) were compromised.

Season reports, 1868.

The following are the chief details in the history of the last ten seasons. In 1868 scanty rain in June and July was followed by a severe flood in August and an almost complete failure of the late rains. The total fall was thirty-nine inches. Though the harvest was below the average, the rupee price of millet, *bájri*, the staple food of the people fell from twenty-four to twenty-nine pounds. The area under cultivation rose from 379,956 to 388,284 acres and the land revenue from £198,624 to £199,666 (Rs. 19,86,240-Rs. 19,96,660), the year closing with £809 (Rs. 8090) of remission and an outstanding balance of £613 (Rs. 6130). In the central and southern villages the condition of the people was good. But in the poorer lands to the north the Kolis were depressed and embarrassed.[2]

1869.

In 1869 the rains did not set in till the end of July, but from then till October they were plentiful and timely with a total fall of thirty-three inches. The harvest especially the rice crop was splendid. This with millet prices as high as twenty pounds the rupee made the season one of great agricultural prosperity.[3] The tillage area rose from 388,284 to 391,817 acres and the land revenue from £199,666 to £203,176 (Rs. 19,96,660-Rs. 20,31,760). Remissions were granted to the extent of only £84 (Rs. 840) and at the close of the

[1] A statement supplied by Mr. A. Crawley-Boevey, Tálukdári Settlement Officer, shows that, twenty-six estates are (1879) owned by fifty-one *thákors*, of whom sixteen are Rájputs, nineteen Kolis, and sixteen Molesaláms. These estates comprise an estimated area of 53,866 acres yielding a yearly revenue of £13,707 (Rs. 1,37,070) of which £4353 (Rs. 43,530) are paid to Government. The smallest estate is in A'nand, one of 402 acres yielding £70 (Rs. 700), the largest, in Borsad, has 7155 acres and a yearly rental of £1600 (Rs. 16,000). The details are:—

Kaira Thákors, 1878.

Sub-division.	Estates.	Thákors.	Estimated area.	Estimated revenue.	Government payment.
			Acres	£	£
Thásra	7	6 Kolis ... ... 2 Rajputs	13,748	1784	763
A'nand	6	16 Molesaláms ... 7 Rajputs ... 3 Kolis	9060	4103	1045
Borsad	11	9 Kolis ... 6 Rajputs ...	24,508	6787	1942
Kapadvanj	1	1 Koli	1126	123	13?
Mátar	1	1 Rajput ...	5424	900	470
Total	26	... ...	53,866	13,707	4252

[2] Rev. Commr. 1282, 19th March 1869. [3] Rev. Commr. 668, 8th August 1870.

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1868-1877.

Season reports, 1870.

year (31st July 1870) there was an outstanding balance of £457 (Rs. 4570). The condition of all the cultivating classes was good.

In 1870 the rain was heavy in July, moderate in August, and short in September. On the whole it was sufficient with a total fall of thirty-eight inches. The early harvest was good but the late crops wanted moisture.[1] Millet prices fell to twenty-one pounds the rupee. The tillage area rose from 391,817 to 393,794 acres and the land revenue from £203,176 to £203,765 (Rs. 20,31,760-Rs. 20,37,650), the year closing with £107 (Rs. 1070) of remission and an outstanding balance of £529 (Rs. 5290).

1871.

In 1871 the rainfall was ill distributed. Light early rains were followed in August by heavy floods, and the floods by a long stretch of dry weather. The total fall was thirty-three inches. In the north and east the harvest was poor. But in spite of the local failure millet prices went down to twenty-three pounds the rupee. The tillage area fell from 393,794 to 390,458 acres and the land revenue from £203,765 to £200,006 (Rs. 20,37,650 - Rs. 20,00,060), the year closing with £409 (Rs. 4090) of remission and an outstanding balance of £429 (Rs. 4290). The central districts were prosperous. But the Kolis of Mátar, Mehmadabad, and Thásra showed signs of poverty and were throwing up their lands.[2]

1872.

In 1872 the rainfall was timely and sufficient, with a total fall of fifty-eight inches. A frost in January harmed the cold weather crops, but on the whole it was an average harvest. Millet prices went down to thirty pounds the rupee. The tillage area fell from 390,458 to 387,554 acres and the land revenue from £200,006 to £198,645 (Rs. 20,00,060-Rs. 19,86,450). Remissions were granted to the extent of £443 (Rs. 4430) and the year closed with an outstanding balance of £239 (Rs. 2390). The depressed state of the Kolis in Thásra and Mehmadabad continued to attract notice.

1873.

In 1873 the rains began early but towards the end failed, with a total fall of twenty-three inches. The early harvest was fair, the late crops poor. Millet prices again fell to thirty-four pounds the rupee. The tillage area was reduced from 387,554 to 378,282 acres and the land revenue from £198,645 to £195,750 (Rs. 19,86,450-Rs.19,57,500). Remissions were granted to the extent of £406(Rs.4060) and the year closed with an outstanding balance of £648 (Rs. 6480). Poverty was spreading among the less thrifty peasantry. Money-lenders, partly because of the shortening of the time of limitation in civil suits and partly because of the continued fall in grain prices, crowded the civil courts,[3] keen to recover their outstanding debts.

1874.

In 1874 the rain at first fell freely and timely, but ceased very early with a total fall of twenty-three inches. The early harvest was good, but the late rice and the cold weather crops failed. The fall in prices continued, millet going down to forty-six pounds the rupee. The tillage area fell from 378,282 to 368,001 acres and the

[1] Rev. Commr. to Gov., 6708, 26th December 1870.
[2] Collector's administration report.
[3] Details are given under the head 'Capital' (p. 63-64). In this year 13,105 civil suits were instituted, compared with an average of 11,350 in the three preceding years.

land revenue from £195,750 to £193,299 (Rs.19,57,500-Rs. 19,32,990), the year closing with £65 (Rs. 650) of remission and an outstanding balance of £5 (Rs. 50). The cheapness of grain and the failure of the later crops added to the troubles of the poorer husbandmen, and even the well-to-do are said to have been scrimped.

1868-1877.

Season reports, 1875.

In 1875 the rain was free and timely with a total fall of thirty-six inches. The harvest was one of the best on record and millet prices fell to forty-eight pounds the rupee. The tillage area fell from 368,001 to 363,255 acres and the land revenue from £193,299 to £192,434 (Rs. 19,32,990-Rs. 19,24,340), the year closing with £68 (Rs. 680) of remission and an outstanding balance of £93 (Rs. 930). In spite of the slight fall in prices the state of the cultivating classes showed signs of improvement, and the pressure of the money-lenders had to a great extent ceased.

1876.

In 1876 the rain was again favourable with a total fall of thirty inches, and while the local harvest was good, millet prices in consequence of the failure in the Deccan and Southern Marátha districts rose from forty-eight to forty pounds. The tillage area fell from 363,255 to 362,222 acres and the land revenue rose from £192,434 to £193,802 (Rs. 19,24,340-Rs. 19,38,020), the year closing with £122 (Rs. 1220) of remissions and no outstanding balances. Before these large crops and high prices all signs of poverty disappeared, and the people were said to have been exceptionally prosperous.[1]

1877.

In 1877 the rains began well, but they soon failed and in spite of heavy September showers the total fall was twenty-six inches. The cold weather harvest was fair, but except those that were watered the early crops suffered. Exports to the famine districts had drained the local stock of grain, and millet prices went up from forty to seventeen pounds. The tillage area rose from 362,222 to 377,438 acres and the land revenue from £193,802 to £195,510 (Rs.19,38,020-Rs. 19,55,100), the year closing with £64 (Rs. 640) of remission and an outstanding balance of £554 (Rs. 5540). On the whole 1877 was a good year for Kaira cultivators. The poorer classes lost much of their crops. But what they reaped was of very high value and the rise in prices improved their credit. To the better class of cultivators whose wells ensured them a full harvest the season was one of very great profit.

Development, 1846-1876.

During the thirty years ending 1876 population has increased from 566,513 to 782,733 or 38·16 per cent; houses from 150,628 to 218,596 or 45·12 per cent; cattle from 413,440 to 458,439 or 10·88 per cent; ploughs from 54,975 to 56,916 or 3·53 per cent; carts from 20,864 to 29,110 or 39·52 per cent; and wells from 6409 to 9237 or 44·12 per cent. In these years the land revenue has risen from £152,109 to £195,443 or 28·48 per cent. Five municipalities, six dispensaries, and 190 schools have been established, and 100 miles of road and seventy-two miles of rail have been opened.

[1] Gov. Res. 4602, 28th June 1876.

CHAPTER IX.

JUSTICE.

Chapter IX. Justice. 1802-1877.

THE judicial administration of the lands acquired in 1802 remained in the hands of the Resident at Baroda till in 1805 a Judge and Magistrate was appointed for Kaira.[1] In 1818 the office and functions of magistrate were transferred from the Judge to the Collector.[2] In the same year, owing to the acquisition of territory under the treaty of the 6th November 1817, the jurisdiction of the Kaira Judge was limited to the lands of the eastern division, and a new Judge was appointed for the western division and stationed at Ahmedabad.[3] In 1828 the office of District Judge of Kaira was abolished, and from that time till 1856 the judicial administration of the district remained in the hands of the Judge of Ahmedabad. In 1856 a senior assistant judge was sanctioned for Kaira. This appointment was abolished in 1869, and since that time, except from 1872 to 1874 when a joint Judge was stationed at Kaira, the duties have been performed by the Judge and assistant judge of Ahmedabad.

Judicial Staff, 1830-1878.

Of the strength of the staff appointed to decide civil cases in the Kaira district no details have been obtained earlier than the year 1830. In that year the district was furnished with eight judges. The total number of suits disposed of was 5949. Twenty years later in 1850 there were in all seven courts, and the cases disposed of numbered 6189. In 1860 there were again eight courts and the suits numbered 5313. In 1870 the number of courts was reduced to six, while the number of decisions rose to 10,532. In 1874 there were five courts and 10,884 decisions. In 1877 the number of courts was the same, while the total of suits fell to 8853. At present (1878) the district is provided with five subordinate judges' courts with an average jurisdiction over 320 square miles and 156,546 souls. Of these one is stationed at Kaira with jurisdiction over the Mehmadabad and Mátar sub-divisions; another at Nadiád with jurisdiction over the Nadiád and some villages of the A'nand sub-divisions; a third at Kapadvanj with jurisdiction over the Kapadvanj sub-division, and over some villages of Thásra in Kaira and of Parántij in Ahmedabad; a fourth at Umreth with jurisdiction over some villages of the Thásra, A'nand, and Nadiád sub-divisions; and a fifth at Borsad with

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[1] Reg. II. of 1805, sec. V. [2] Reg. III. of 1818.
[3] Gov. order dated 9th February 1818.

jurisdiction over the Borsad sub-division and some villages of A'nand. Besides these there is a small cause court at Nadiád. The business of this court is conducted by the judge of the small cause court at Ahmedabad who visits Nadiád on the first and third Mondays in each month.

Distance, 1878.

The average distance of the Kaira court from its six furthest villages is seventeen miles; of the Nadiád court, fifteen; of the Kapadvanj court, forty-eight; of the Umreth court, thirteen; and of the Borsad court, fourteen. Exclusive of suits settled by the small cause court, the average number of cases decided during the eight years ending 1877 is 11,123. During the first four of those years the totals rose from 10,532 in 1870 to 13,105 in 1873 and then fell to 8853 in 1877. Of the total number of cases decided during the eight years ending 1877, 71·39 per cent have on an average been given against the defendant in his absence. The proportion of cases decided in this way would seem to have been on the increase during the first three years and on the decline during the next five years, the maximum percentage being 79·55 in 1872 compared with 73·78 in 1870 and 59·56 in 1877. Of contested cases only 15·17 per cent have, during this period of eight years, been on an average decided for the defendant. The proportion of such cases decided in favour of the defendant fell from 23·48 per cent in 1870 to 11·19 per cent in 1872, and then during the next five years rose to 17·30 in 1877. In 127 or 1·43 per cent of the whole number of suits decided in 1877, the decree has been executed by putting the plaintiff in the possession of the immoveable property claimed. The number of cases of this kind does not vary much from year to year, except that in 1873 the total was only 47 out of 13,105 suits, and in 1877 was 127 out of 8853. In 1870 the total was 104 compared with 127 in 1877. In 53·38 per cent of the decisions passed in 1877, decrees for money due have been executed by the attachment or sale of property; of these 17·11 per cent have on an average been by the sale of moveable and 36·27 per cent by the sale of immoveable property. Compared with 1870, the 1877 returns of attachments or sales of moveable and immoveable property show a rise from 354 to 1515 in the former, and from 1185 to 3211 in the latter.

Ex-parte Decrees, 1870-1877.

Year.	Suits.	Decreed *Ex-parte*.	Percentage.
1870 ...	10,532	7771	73·78
1871 ...	10,526	7792	74·02
1872 ...	12,989	10,334	79·55
1873 ...	13,105	9967	76·05
1874 ...	10,884	7743	71·14
1875 ...	10,715	7323	68·34
1876 ...	11,376	7323	64 37
1877 ...	8853	5273	59·56
Total ...	88,980	63,526	71·39

Debtors.

Compared with 1870, the number of decrees executed by the arrest of the debtor during the eight years ending 1877 has considerably fallen, the total for 1870 being 1553 against 104 in 1877. As will be seen from the following table, the number of civil prisoners has varied but little during the eight years ending 1877, the total in the latest year being 123 compared with 154 in 1870 and 212 in 1873:

Chapter IX. Justice.

Kaira Civil Prisoners, 1870-1877.

Year.	Prisoners	Days.	Releases.				
			By satisfying the decree.	At creditor's request.	No subsistence allowance.	Disclosure of property.	Time expiry.
1870	154	6	28	29	93	3	1
1871	197	11	37	28	129	2	1
1872	196	13	21	44	126	3	2
1873	212	14	23	49	133	4	3
1874	174	13	6	42	123	2	1
1875	211	14	9	63	134	2	3
1876	182	9	6	58	117	1	...
1877	123	11	9	29	78	...	7

Of the 123 prisoners in 1877, 111 were Hindus and twelve Musalmáns.

Civil Courts, 1870-1877.

The following statement shows in tabular form the working of the district civil courts during the eight years ending 1877 :—

Kaira Civil Courts, 1870-1877.

Year.	Suits disposed of.	Average value.	Uncontested.					Contested.				Execution.			
			Decreed ex-parte.	Dismissed ex-parte.	Decreed on confession.	Otherwise disposed of.	Total.	Judgment for plaintiff.	Judgment for defendant.	Mixed.	Total.	Arrest of debtor.	Decree-holder put in possession of immoveable property.	Attachment or sale of property.	
														Immoveable.	Moveable.
		£. s.													
1870 ...	10,532	9 18	7771	466	163	1438	9838	504	163	27	694	1553	104	1185	354
1871 ...	10,526	8 5	7792	526	147	1228	9693	662	121	50	833	1245	90	1582	518
1872 ...	12,989	7 19	10,334	650	159	1053	12,196	667	89	37	793	858	79	1552	675
1873 ...	13,105	6 1	9967	75	170	1919	12,131	797	115	62	974	396	47	4070	1126
1874 ...	10,884	7 1	7743	109	227	1802	9881	767	143	93	1003	208	78	3622	1251
1875 ...	10,715	6 19	7323	97	279	1877	9576	886	163	90	1139	193	94	3132	1271
1876 ...	11,376	7 11	7323	161	308	2128	9920	1121	222	113	1456	120	95	3129	1847
1877 ...	8853	9 15	5273	103	262	1822	7460	1007	241	145	1393	104	127	3211	1515

Small cause court.

From the following table it will be seen, that during the eight years ending 1877 the total number of suits decided by the Nadiád small cause court, which rose from 1454 in 1870 to 2118 in 1872, has fallen to 1064 in 1877, or a decrease of 26·82 per cent in eight years. Against a fall in suits of less than £20 (Rs. 200) there is a slight rise in suits of higher value. Except in 1871 and 1877 when it rose to £5 18*s.* 7*d.* (Rs. 59-4-8), and £5 3*s.* 9½*d.* (Rs. 51-14-4), the average value of suits during the eight years has ranged between £4 6*d.* (Rs. 40-4) and £4 16*s.* 8*d.* Rs. 48-5-4). As regards the execution of decrees, attachments of property have risen from 16 in 1870 to 64 in 1877; and sales from 4 to 32. There is a fall in the number of debtors imprisoned from 16 in 1870 to 11 in 1877.

Nadiád Small Cause Court, 1870-77.

Year.	Decisions.	Suits. Under £5.	Suits. From £5 to £20.	Suits. From £20 to £50.	Average amount. £ s. d.	Average cost. £ s. d.	Processes. Moveable property attached.	Processes. Moveable property sold.	Persons imprisoned.
1870 ..	1454	1136	286	32	4 0 6	0 8 11	16	4	16
1871 ..	1528	1213	292	23	5 18 7	0 8 0	32	7	25
1872 ...	2118	1688	382	48	4 2 6	0 8 10	38	28	27
1873 ...	1858	1451	362	45	4 6 2	0 8 10	35	37	20
1874 ...	1412	1083	292	37	4 8 7	0 10 4	36	37	23
1875 ...	1235	916	274	45	4 16 8	0 10 8½	43	27	27
1876 ...	1289	999	243	47	4 11 2½	0 10 4	55	33	30
1877 ...	1064	798	209	57	5 3 9½	0 12 1	64	32	11

Registration employs eight special sub-registrars, one at each of the seven sub-division headquarters[1] and the eighth at the town of Umreth. In addition to the Collector's supervision as district Registrar, and to his assistant or deputy's supervision a special scrutiny is, under the control of the Inspector General of registration and stamps, carried on by the inspector of registration for Gujarát. According to the registration report for 1877-78 the receipts for that year amounted to £1838 (Rs. 18,380), and the charges to £1001 (Rs. 10,010), leaving a balance of £837 (Rs. 8370). Of 6466, the total number of registrations, sixty-one were wills, 121 were documents affecting moveable, and 6284 documents affecting immoveable property. Of the last class, in addition to 1073 miscellaneous instruments, thirty were deeds of gift, 2242 were deeds of sale, and 2939 were mortgages. The registered value of the total immoveable property transferred was £219,388 (Rs. 21,93,880). Registration, 1877-78.

At present (1878) eighteen[2] officers share the administration of criminal justice. Of these five, one of them a mámlatdár, are magistrates of the first, and thirteen of the second and third classes. Of the former two are covenanted European civilians and three are natives. With regard to the local jurisdiction and powers of these magistrates, one of them, the District Magistrate, is placed in a special position, invested with a general supervision over the whole district. Each of the four remaining first class magistrates has an average charge of 400 square miles and a population of 195,683 souls. In the year 1876, the five first class magistrates decided 286 original and eighty-one appeal criminal cases. Of the five first class magistrates three have as Collector, assistant collector, and deputy collector, revenue charge of the parts of the district in which they exercise magisterial powers. Of subordinate magistrates there are fourteen, all of them natives with an average charge of 114 square miles and a population of 60,210 souls. In 1876 they decided 1228 original criminal cases. Besides their magisterial duties, these officers Criminal justice. Staff, 1878.

[1] The registry office for the Mehmadabad sub-division is held at Mehmadabad from the second Monday to the following Saturday in each month, and during the rest of the time at Kaira.

[2] Besides nine honorary magistrates.

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exercise revenue powers as mámlatdárs or the head clerks of mámlatdárs. Seventy of the village headmen, of whom there are 600 with an average annual pay of £4 12*s.* (Rs. 46), have been entrusted with powers of fining and imprisoning, and the rest with the powers contemplated by the Bombay Village Police Act (VIII. of 1867).

Offences, 1871-1877.

From the table of offences given below, it will be seen that during the seven years ending 1877, 2250 offences or one offence for every 347 of the population were on an average committed. Of these there were on an average ten murders and attempts to commit murder; five culpable homicides; sixty-one cases of grievous hurt and hurt by dangerous weapons; and twenty-six cases of dacoity and robbery. 2146 or 95 per cent of the whole were minor offences.

Police, 1803-1877.

At the beginning of the century when Kaira came under British management, the chief criminal classes were the Rajput Girásiás or land revenue claimants, who to recover some alleged claim, or because of some other grievance would, by turning outlaws, *báhárvatiás,* burning, murdering, and robbing, try to force the authorities to grant their demands. The next class were the Kolis, inveterate robbers and highwaymen. A third were the Bháts or Báhrots who when pressed to pay taxes committed *trága,* that is, either mutilated themselves or killed one of their number.[1] At the 1811-12 circuit sessions the chief offences were gang robberies, housebreaking, and theft, and the passing of base money. The gang robberies were seldom found out. In 1813 on account of the scarcity crime was unusually general. At that time so disturbed was the country that in the western districts long before sunset ploughs were unyoked and wells deserted.[2]

In 1821 the district was orderly. There was no open violence, murders were rare, and thefts much fewer than formerly. Except the Kolis the people were not given to affrays, drinking or other forms of debauch.[3] A few years later there was a serious disturbance among the Kolis. On the night of the 17th March 1826 Govindás Rámdas with about 500 armed followers attacked the town of Thásra with the object of driving out the British officer and establishing himself as ruler. His followers thought Govindás a saint and believed him endowed with supernatural powers. In 1828 things were better, there were few cases of large plundering gangs. The population was generally quiet and crimes were few.[4] Two years later (1830) the Kolis were again unsettled. Bands of disaffected vagrants wandered about, orderly cultivators were not protected, few travellers escaped without loss and in Sir John Malcolm's camp though at a distance from the wilder tracts and guarded by village

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In the early years of British rule *trága* cases were not uncommon. The following are examples. In 1816 the Mátar Bháts to prevent Government officers from measuring their lands wounded some of their number.—Ham. Des. I., 692. In 1827 for refusal to pay a quitrent on their lands the Bháts' crops were attached. At Mahudha an old woman threw herself into a well and at Anára two women killed themselves and three men wounded themselves severely.—Collector, 15th December 1827.

[1] Ham. Des., I., 693.

[2] Circuit Judge, 20th April 1828.

[3] East India Papers, III., 696.

Police.

watchmen as well as by soldiers, many thefts were safely committed.[1] Though they have to a great extent settled as regular cultivators, the Kolis are still a troublesome class. Many are born and brought up as thieves, and the difficulty of tracing crime is increased by the ready shelter given to criminals in the tract of rough country along the Mahi, and in almost all the states that march with Kaira limits. Besides, of late years small hamlets sometimes as many as twenty to a village have sprung up, and in other parts the lower classes of villagers have begun to live in small huts in the fields. These changes add much to the difficulty of keeping a watch on the criminal classes. Agrarian crimes, thefts from fields in harvest time, the burning of crops to pay off a private grudge, and the murder of oppressive money-lenders[2] have of late years been rather common. In 1872 several cases of poisoning occurred. Suspicions were aroused and on the trial of one of the cases it came out that the poisonings were the work of a gang of professional criminals. The leader was convicted and hanged, and one of his accomplices transported for life. Since then this form of crime is believed to have ceased.[3]

Cost, 1877.

In the year 1877 the total strength of the district or regular police force was 754. Of these under the district Superintendent one was a subordinate officer, 142 inferior subordinate officers, thirty-five

[1] Sir J. Malcolm's minute 15th October 1830 (Litho. Papers No. 148, 51.)

[2] Kolis and Rabáris or wandering shepherds, are the classes most given to burning crops. Before burning the crop a warning is generally hung on some tree or near a well, stating that unless the owner of a certain field takes care his crop will be burnt. The following are some of the more recent cases of attacks on money-lenders. In 1872 two Vánia brothers of the town of Kaira obtained an order of attachment against the property of a Koli of Parsátej, a village in the Mehmadabad sub-division, and while he was busy with his wife's funeral sold all his property. The brothers were warned, but without effect. A few days after they paid another dunning visit to the village, and as they were riding home some of the villagers followed them, dragged them from their horses, and killed them, throwing their bodies into the river. In 1873 a Bráhman usurer of Borsad brought to the village of Asodar in the Borsad sub-division a decree against three Koli brothers. On pretence of giving him grass in satisfaction of his claim, the brothers took him to their field and setting upon him killed him. In 1874 two cases occurred. In the first in spite of his entreaties a Vánia sold the house and other property of a Koli of Dhálora in the Mátar sub-division. In revenge the Koli stabbed him dead. In the second a Vánia of Nadiád bought a field from a woman of his village, to whom it had been mortgaged by the holder, a Koli. The Koli refused to give possession. Persisting in having the field planted with rice the Vánia with a Bráhman friend went to the place to see that the work went on. While there the Koli and some friends came up, attacked the strangers, and killed them both on the spot.

[3] In one case at the village of Sui in the Thásra sub-division, as a band of nineteen shepherds were sitting down to their evening meal, a man dressed as a Bráhman asked them to bring their flocks next day to manure his fields. The shepherds agreed. On rising to go, the Bráhman offered them two sweetmeats saying they were from the temple of Ranchhodji at Dákor, and as some children had touched his clothes he could not eat them. The shepherds took the sweetmeats, and after the Bráhman left divided and ate them. In a short time all sickened. Six died and the rest only recovered after a long illness. Some months after a Musalmán packman of Kaira was with two servants going from Dákor to Kaira. Near Umreth they were joined by two Musalmáns. After a meal cooked by the strangers, the two servants fell ill. One died during the night, and the other somewhat recovered went on with his master and the strangers to Nadiád. Next day after leaving Nadiád they ate some more of the strangers' food. That night two policemen coming from Kaira to Nadiád found one of them dead and the other apparently mad and their goods gone. The strangers had disappeared. Followed on camels, one of them was found in Baroda with the greater part of the stolen property. The other was afterwards taken in Ahmedabad. At the trial one of them confessed that he had poisoned the Sui shepherds.

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mounted police, and 575 constables. The cost of maintaining this force was as follows. The one European officer, the district Superintendent, received a total annual salary of £1080 (Rs. 10,800); the subordinate officer, a yearly salary of not less than £120 (Rs. 1200) and the inferior subordinate officers, yearly salaries of less than £120 (Rs. 1200) each, or a total yearly cost of £3419 16*s.* (Rs. 34,198); the pay of the mounted and foot police came to a total of £6676 (Rs. 66,760). Besides the pay of the officers and men, there was a total annual sum of £366 (Rs. 3660) allowed for the horses and travelling expenses of the superior officers, £205 2*s.* (Rs. 2051) annual pay and travelling allowance for their establishments, and £393 (Rs. 3930) a year for contingencies and other expenses, making a total annual cost to Government for the district police of £12,139 18*s.* (Rs. 1,21,399).

Taking 1600 square miles as the area of the district and 782,733 as its population, the strength of the police of the Kaira district is one man to every 2·12 square miles and 1038 souls. The cost of maintenance is equal to £7 11*s.* 9*d.* (Rs. 75-14) per square mile, or 3¾*d.* (2½ as.) per head of the population. Of the total strength of 754, inclusive of the Superintendent, twenty-eight officers and twenty-four constables were in 1877 employed as guards at district, central, or subsidiary jails; 109 men, nineteen officers and ninety constables, were engaged as guards over treasuries, lock-ups, or as escorts to prisoners and treasure; 531 men, 110 officers and 421 constables, were engaged on other duties; and eighty-six men, eleven officers and seventy-five constables, were stationed in towns and municipalities. Of the portion of the force on general police duties 137, twenty-four head constables and 113 constables were employed at twenty-seven police posts, *thánás*, with on an average about twelve villages to each post. It is the duty of these men to be constantly moving from one to another of the villages under their charge. Of the whole number, exclusive of the district Superintendent, 301 were provided with fire-arms and 452 with swords only, or with swords and batons; 405, ninety-seven officers and 308 constables, could read and write; and 162, twenty-seven officers and 135 constables, were under instruction during the year. With the exception of the European Superintendent, the members of the police force were all natives of India. Of these, seventy-eight officers and 295 constables were Musalmáns, four officers and thirteen constables were Bráhmans, sixteen officers and forty-four constables were Rajputs, eight officers and thirty-four constables were Maráthás, twenty-one officers and 183 constables were Kolis, fourteen officers and forty-one constables were Hindus of other castes, and two officers belonged to other religions. Subordinate to the district police there is the village watch, who under the names of *rávaniás*, *rakhás*, and *pagis* with a total strength of about five for each village and a cost of £13 (Rs. 130), besides as guides and messengers, act as village police. This force of village police is paid chiefly by the grant of land. Besides what they receive from Government the village watch, nominally on the understanding that they will make good any losses by theft, recover from villagers yearly sums varying from £5 to £30 (Rs. 50-Rs. 300).

In 1877 of 261 persons accused of heinous crimes, 181 or 69·35 per cent were convicted. Of 3884, the total number of persons accused of crimes of all sorts, 2420 or 62·31 per cent were convicted. Of £1677 (Rs. 16,770) alleged to have been stolen, £1189 (Rs. 11,890) or 70·86 per cent of the whole amount were recovered.

Crime and police, 1871-1877.

The following table gives the chief crime and police details of the seven years ending 1877 :

Kaira Crime and Police, 1871-1877.

Year.	Offences and Punishments.															
	Murder and attempt to Murder.				Culpable Homicide.				Grievous hurt and hurt by dangerous weapons.				Dacoities and Robberies.			
	Number.	Arrests.	Convictions.	Percentage.	Number.	Arrests.	Convictions.	Percentage.	Number.	Arrests.	Convictions.	Percentage.	Number.	Arrests.	Convictions.	Percentage.
1871	20	50	8	16·	2	2	...	50·	70	92	35	38·04	35	81	24	29·62
1872	15	40	13	32·5	5	4	3	75·	58	100	48	48·	34	62	31	50·
1873	7	12	10	83·33	5	10	4	40·	58	78	49	51·28	24	53	45	84·90
1874	20	53	24	45·28	8	14	8	57 14	53	83	66	79·51	35	81	70	86·41
1875	8	20	6	30·	6	9	6	66·66	64	110	57	51·81	23	55	36	65·45
1876	5	7	..	..	3	2	2	100·	59	108	65	60·18	28	50	47	94·
1877	12	35	13	37·14	4	13	2	15·38	75	145	117	80·69	21	68	49	72·06

Year.	Offences and Punishments—*continued.*								Stolen Property.		
	Other Offences.				Total.						
	Number.	Arrests.	Convictions.	Percentage.	Number.	Arrests.	Convictions.	Percentage.	Property stolen.	Property recovered.	Percentage.
									£. s.	£. s.	
1871	1839	4905	1907	38·87	1966	5130	1974	38·47	3921 4	1218 14	31·07
1872	2701	3891	1533	39·39	2813	4097	1628	39·73	3887 0	1084 10	27·90
1873	2570	3902	1524	39·05	2664	4055	1623	40·02	3561 14	1378 12	38·70
1874	1833	3420	1370	40·05	1949	3651	1538	42·12	1453 16	996 10	68·54
1875	2075	3887	1781	45·81	2176	4081	1886	46·21	1943 12	1215 4	62·52
1876	2141	3879	1614	41·60	2236	4046	1728	42·70	1967 10	1020 6	51·85
1877	2113	3623	2239	61·79	2225	3884	2420	62·30	1677 18	1189 2	70·86

Offences, 1845-1849 and 1873-1877.

Little information of the comparative amount of crime at different periods since the introduction of British rule has been collected. The following is a summary of such details as are available. The total number of offences committed during the five years ending 1849 was 15,757, representing an annual average of 3151, or on the basis of the census returns of 1846, one crime to every 179 inhabitants. Corresponding returns for the five years ending 1877 show a total of 11,250 offences giving a yearly average of 2250 crimes, or on the basis of the 1872 census returns one crime to every 347 inhabitants. A comparison of the returns would seem to show great improvement in the matter of murder and culpable homicide. While population has increased since 1849, only ten cases of murder and attempts to commit murder were on an average returned per year during the five years ending 1877 against twenty-four

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during the five years ending 1849, and five against seven of culpable homicide. Under the head of robberies including dacoities and thefts of cattle, there is a most marked falling off, the yearly averages for the two periods being 830 for the earlier and 131 for the later. Besides these, the crime of arson not now shown as a separate offence was very common. During the five years ending 1849, 871 cases or on an average 174 per year were recorded with an estimated average annual destruction of property worth £626 8*s.* (Rs. 6264).

Crime and police, 1845-1849.

The following is a statement of crime and police during the five years ending 1849 :—

Kaira Crimes, 1845-1849.

Year.	Murder.	Homicide.	Robbery, including cattle-thefts.	Arson.		Miscellaneous.	Total offences.
				Cases.	Property destroyed.		
					£. s.		
1845	20	7	808	220	938 4	1982	3037
1846	21	6	766	160	660 0	2040	2993
1847	24	3	777	124	312 0	2259	3187
1848	29	10	817	174	855 4	2072	3102
1849	24	6	982	193	366 14	2233	3438
Total ...	118	32	4150	871	3132 2	10,586	15,757

Kaira Police, 1845-1849.

Year.	Arrests.	Convictions.	Percentage.	Property stolen.	Property recovered.	Percentage.
				£ s.	£ s.	
1845	3190	2082	65·26	4017 14	1057 8	26·31
1846	4492	3123	69·52	3786 4	623 6	16·46
1847	4351	3119	71·68	3752 14	521 12	13·89
1848	4151	2641	63·62	4112 4	492 0	11·96
1849	3925	2362	60·17	4587 16	925 6	20·17
Total ...	20,109	13,327	66·27	20,256 12	3619 12	17·86

Jail.

Besides the accommodation provided for under-trial prisoners at the headquarters of each sub-division, there is in the town of Kaira, a jail able to hold ninety-two male and eight female prisoners.

CHAPTER X.

REVENUE AND FINANCE.

Balance sheet, 1815-1876.

THE earliest year for which a copy of the balance sheet of the district is available is 1815-16. Since that time many changes have been made in the way of keeping accounts. But, as far as possible, the different items have been brought under their corresponding heads of account according to the system at present in force. Exclusive of £77,654 (Rs. 7,76,540) the adjustment on account of alienated land, the total transactions that appear in the district balance sheet for 1875-76 amount to receipts £291,117 (Rs. 29,11,170) against £194,251 (Rs. 19,42,510) in 1815-16, and the charges to £286,154 (Rs. 28,61,540) in 1875-76 against £165,067 (Rs. 16,50,670) in 1815-16. Exclusive of departmental miscellaneous receipts and sums received in return for services rendered, such as the receipts of the post and telegraph departments, the amount of revenue raised in 1875-76 under all heads, imperial and provincial services, local funds and municipal revenues, amounted to £260,547 (Rs. 26,05,470), or on a population of 782,733 an incidence per head of 6*s.* 8*d.* As no census details are available for 1815-16, corresponding information for that year cannot be given.

During the interval of sixty years, the following changes have taken place under the chief heads of receipts and charges:

Land revenue.

Land revenue receipts, forming 74·1 per cent of £260,547 (Rs. 26,05,470) the entire revenue of the district, have risen from £156,344 (Rs. 15,63,440) in 1815-16 to £195,184 (Rs. 19,51,840) in 1875-76. The increase is for the most part due to receipts from the large additional area under cultivation. Another source of increase has been the larger amounts recovered since 1863 from all alienated lands except service lands held by certain village and district officers. The land revenue charges show an advance from £12,696 to £25,398 (Rs. 1,26,960 - Rs. 2,53,980). This increased cost in collecting the land revenue is partly due to a rise in the number and in the amount of both village and district officers' salaries, and is in part the result of the change from hereditary to stipendiary officers.

The following statement [1] shows the land revenue collected in each of the forty-five years ending 1877:

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[1] Figures for the years between 1833 and 1862 are taken from statement No. II. in Mr. Bell's excise report dated 1st October 1869. Figures for subsequent years are taken from the annual reports.

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Land revenue.

Kaira Land Revenue, 1833-1877.

Year.	Land Revenue.	Year.	Land Revenue.	Year.	Land Revenue.
	£.		£.		£.
1833-34 ...	118,439	1848-49 ..	143,028	1863-64 ...	174,058
1834-35 ...	104,502	1849-50 ...	152,241	1864-65 ...	192,065
1835-36 ...	196,505	1850-51 ...	151,145	1865-66 ..	190,127
1836-37 ...	153,105	1851-52 ...	154,713	1866-67 ...	191,384
1837-38 ...	155,865	1852-53 ...	157,187	1867-68 ...	198,624
1838-39 ...	149,314	1853-54 ...	147,652	1868-69 ...	199,666
1839-40 ...	147,985	1854-55 ...	152,470	1869-70 ...	203,176
1840-41 ...	149,042	1855-56 ...	151,388	1870-71 ...	203,765
1841-42 ...	152,426	1856-57 ...	153,175	1871-72 ...	200,006
1842-43 ...	152,544	1857-58 ...	154,035	1872-73 ...	198,645
1843-44 ...	152,109	1858-59 ...	155,909	1873-74 ...	195,750
1844-45 ...	154,989	1859-60 ...	158,086	1874-75 ...	194,100
1845-46 ...	150,661	1860-61 ...	166,632	1875-76 ...	192,312
1446-47 ...	153,135	1861-62 ...	163,147	1876-77 ...	193,738
1847-48 ...	153,995	1862-63 ...	160,564	1877-78 ...	195,443

Tribute.

There is no separate head of Tribute. The sum of £2547 10*s.* 7⅝*d.* (Rs. 25,475-5-1) paid yearly as cash tribute by the Nawáb of Cambay under the treaty of Bassein (1802) and the Imperial share of certain cesses are credited to Land Revenue.

Stamps.

Stamp receipts have risen from £2296 to £20,471 (Rs. 22,960-Rs. 2,04,710); the expenditure of £574 (Rs. 5740) is a new charge.

Excise.

Unlike the southern districts of Gujarát, liquor is little used. Excise receipts have risen from £1370 to £1790 (Rs. 13,700-17,900).

Transit dues.

Transit dues in 1815-16 yielded £18,880 (Rs. 1,88,800); they have since been abolished.

Justice.

Law and Justice receipts, chiefly fines, have risen from £389 to £1471 (Rs. 3890 - Rs. 14,710). The 1875-76 charges were £10,280 (Rs. 1,02,800) against £10,216 (Rs. 1,02,160) in 1815-16.

Forest.

There are no regular forests. The item £285 (Rs. 2850) represents the rental of lands credited to the Forest Department.

Assessed taxes.

The following table shows, exclusive of official salaries, the amount realized from the different assessed taxes levied between 1860 and 1873. Owing to their variety of rates and incidence, it is difficult to make any satisfactory comparison of the results.

Kaira Assessed Taxes, 1860-1872.

Year.	Incomes.				Realizations.	
	Below £50.		Above £50.			
Income Tax.	£.	Rs.	£.	Rs.	£.	Rs.
1860-61	180,323	18,03,230	100,417	10,04,170	7741	77,410
1861-62	194,901	19,49,010	111,237	11,12,370	8342	83,420
1862-63	...	...	217,438	21,74,380	3758	37,530
1863-64	...	...	207,293	20,72,930	3011	30,110
1864-65	...	...	106,002	10,60,020	3158	31,580
License Tax.						
1867-68	117,480	11,74,800	88,317	8,83,170	2699	26,990
Certificate Tax.						
1868-69	...	...	184,470	18,44,700	1882	18,820
Income Tax.						
1869	...	...	336,746	33,67,460	3557	35,570
1869-70	...	...	336,616	33,66,160	1779	17,790
1870-71	...	...	316,951	31,69,510	9443	94,430
1871-72	...	...	...	...	3653	36,530
1872-73	...	...	...	...	1340	13,400

Customs and Salt receipts have fallen from £7442 to £7067 (Rs. 74,420-Rs. 70,670). Under the existing system, revenue from the sale of opium and the amount of the bid for the right to sell the drug are credited to Customs, and the Government share in the Cambay salt revenue to Salt. In 1815-16 both were credited to Customs.

Customs.

Under allowances and assignments the fall in charges is due to the settlement of cash alienations.

Allowances.

Military charges in 1815-16 amounted to £52,379 (Rs. 5,23,790). Owing to the removal of the military force from Kaira, only £77 (Rs. 770) on account of pensioners were in 1875-76 debited to this head.

Military.

Registration and Education are new heads.

Registration.

Transfer receipts have risen from £6315 to £58,767 (Rs. 63,150-Rs. 5,87,670), and charges from £72,707 to £209,644 (Rs. 7,27,070-Rs. 20,96,440). The increased receipts are due chiefly to receipts on account of local funds, to remittances from other treasuries, to the amount held as deposit on account of savings banks, and to the recovery of loans made to landed proprietors, *thákors*. The increased charges are due chiefly to a large surplus balance remitted to other treasuries[1] and to the expenditure on account of local funds.

Transfer.

In the following balance sheets of 1815-16 and 1875-76, the figures shown in black type on both sides of the 1875-76 balance sheet are book adjustments. On the receipt side the item £77,654 (Rs. 7,76,540) represents the additional revenue the district would yield, had none of its land been given away. On the debit side the item £4090 (Rs. 40,900) under land revenue is the rental of the lands granted to village headmen, except those engaged solely on police duties and to the village watch. The item £71,143 (Rs. 7,11,430) under allowances and assignments represents the rental of the lands granted to district hereditary officers, to *girásiás*, and other non-service claimants; the item £2420 (Rs. 24,200) under police represents the rental of the lands granted to village headmen employed solely on police duties. Cash allowances are, on the other hand, treated as actual charges and debited to the different heads of account according to the nature of the allowance. Thus cash grants to village headmen, except those engaged solely on police duties and the village watch, are included in £25,398 (Rs. 2,53,980), the total of land revenue charges; cash grants to non-service claimants are included in £8493 (Rs. 84,930), the total of allowance and assignment charges; and cash grants to *patels* employed solely on police duties are included in £13,690 (Rs. 1,36,900) the total of police charges.

Balance sheet, 1815-1876.

[1] The Kaira district treasury was able in 1875-76 to send £183,100 (Rs. 18,31,000) to other districts.

Class of Service.	No.	Receipts. Head.	1815-16. £. s. d.	1875-76. £. s. d.
Imperial Service.	1	Land revenue	156,344 16 0	195,184 6 9 77,654 1 9
(A). Supervised by the Collector.	2	Stamps	2296 0 0	20,471 3 7
	3	Excise	1370 9 2	1790 1 7
	4	Transit dues	18,880 19 2	.....
	5	Law and justice	388 18 0	1471 4 10
	6	Forest	.....	285 15 6
	6A	Profit and loss	1213 0 0	.....
	7	Assessed taxes	.....	.....
	8	Miscellaneous	.....	43 0 2
	9	Interest on advances, loans and arrears ...	.....	84 12 4
		Total ...	180,494 2 4	219,330 4 9 77,654 1 9
(B). Administered by Departmental Heads.	10	Customs	7442 10 0	761 4 4
	11	Salt		6306 15 7
	12	Public works	.....	928 2 3
	13	Military	.....	.....
	14	Mint	.....	18 12 6
	15	Post	.....	2610 9 1
	16	Telegraph	.....	.....
		Total ..	7442 10 0	10,625 3 9
Provincial Service.	17	Registration	.....	1108 0 2
	18	Education	.....	261 5 1
	19	Police	.....	662 6 1
	20	Medical	.....	10 3 1
	21	Jails	.....	249 10 6
	22	Sale of books	.....	6 12 0
	23	Miscellaneous	.....	96 3 2
		Total ...	.....	2394 0 1
Transfers and Items of Account.	24	Deposits and repayments of advances and loans	150 10 0	5976 18 10
	25	Bills and cash remittances	5271 18 0	25,410 10 0
	26	Pension fund receipts	892 12 0	465 17 5
	27	Local funds	.....	26,914 4 11
		Total ...	6315 0 0	58,767 11 2
				291,116 19 9 77,654 1 9
		Grand Total ...	194,251 12 4	368,771 1 6

1815-16 and 1875-76.

No.	Charges. Head.	1815-16 £. s. d.	1875-76. £. s. d.
1	Land revenue	12,695 16 0	25,398 6 8
			4090 9 0
2	Stamps	.....	574 6 0
3	Forest	.....	121 10 7
4	Excise	.....	2 12 10
5	Profit and loss	2117 16 0	.....
6	Law and justice — Civil	10,215 13 0	5420 13 8
	Law and justice — Criminal		4860 4 8
7	Allowances and assignments	11,730 12 0	8493 5 8
			71,143 11 11
8	Pensions to government servants	60 4 0	1976 0 11
9	Ecclesiastical	.....	.....
10	Miscellaneous	.....	54 8 1
	Total	36,880 6 0	46,901 9 1
			75,234 0 11
11	Customs	2598 8 0	13 1 7
12	Salt		488 19 2
13	Public works	.....	27,220 2 0
14	Military	52,379 16 0	77 3 0
15	Mint	167 12 0	40 15 7
16	Post	.....	1383 17 10
17	Telegraph	.....	.....
	Total	55,145 16 0	29,228 19 2
18	Registration	.....	791 16 11
19	Education	.....	1695 14 7
20	Police	323 6 0	13,690 15 8
			2420 0 10
21	Medical	12 0 0	686 15 5
			1063 9 2
22	Jails	.....	1010 12 0
23	Cemeteries, office rents, &c.	.....	93 12 0
24	Printing	.....	8 3 8
25	Miscellaneous	.....	322 1 1
26	Contribution to local funds	.....	906 8 0
27	Public works	.....	130 2 6
	Total	335 6 0	20,379 11 0
			2420 0 10
28	Deposits returned and advances and loans made	34 4 0	3852 12 5
29	Bills and cash remittances	72,672 6 0	172.795 3 2
30	Interest on Government securities	.....	181 7 6
31	Local funds	.....	12,815 5 10
	Total	72,706 10 0	189,644 8 11
			286,154 8 2
			77,654 1 9
	Grand Total	165,067 18 0	363,808 9 11

Chapter X.

Revenue and Finance.

Local Funds.

Revenue other than Imperial.

The district local funds collected since 1863 to promote rural education and supply roads, water, drains, rest-houses, dispensaries, and other useful objects amounted in the year 1877-78 to a total sum of £20,340 (Rs. 2,03,400) and the expenditure to £22,772 (Rs. 2,27,720). This revenue is drawn from three sources, a special cess of one-sixteenth in addition to the ordinary land-tax, the proceeds of certain subordinate local funds, and some miscellaneous items of revenue. The special land cess, of which two-thirds are set apart as a road fund and the rest as a school fund, yielded in 1877-78 a revenue of £16,498 (Rs. 1,64,980). Smaller funds including a ferry fund, a toll fund, a cattle-pound fund, and a school fee-fund, yielded £1478 (Rs. 14,780). Government and private subscriptions amounted to £1629 (Rs. 16,290), and miscellaneous receipts including certain items of land revenue, to £735 (Rs. 7350), or a total sum of £20,340 (Rs. 2,03,400). This revenue is administered by committees composed partly of official and partly of private members.

Financial details.

For administrative purposes the local funds of the district are divided into two main sections, one set apart for public works and the other for instruction. The receipts and disbursements during the year 1877-78 under those two heads were as follows:

Kaira Local Funds, 1877-78.

PUBLIC WORKS.

Receipts.	£.	s.	Expenditure.	£.	s.
Balance, 1st April 1877 ...	5082	11	Establishment	2599	4
Two-thirds of the land cess	10,999	4	New works	9681	8
Tolls	165	10	Repairs	1608	18
Ferries	10	12	Medical charges	656	18
Cattle pounds	569	18	Miscellaneous	371	19
Travellers' rest houses ...	28	4	Balance, 1st April 1878...	2641	10
Contributions	624	2			
Miscellaneous	79	16			
Total ..	17,559	17	Total ...	17,559	17

INSTRUCTION.

	£.	s.		£.	s.
Balance, 1st April 1877 ...	2908	2	School charges	5965	13
One-third of the land cess.	5499	12	Scholarships	213	12
School fee fund	731	3	School houses, new ...	477	6
Contribution (Government)	997	14	Do. repairs ...	256	18
Do. (private) ...	7	16	Miscellaneous	940	11
Miscellaneous	627	3	Balance 1st April 1878...	2917	10
Total ...	10,771	10	Total ...	10,771	10

Results, 1863-1878.

Since 1863 the following local fund works have been carried out. To improve communication 100 miles of road have been made, bridged, and for forty-four miles planted with trees. To improve the water supply 419 wells, 355 reservoirs and ponds, eight water courses and

forty-seven troughs have been made or repaired. To help village instruction forty-two schools, and for the comfort of travellers eighty rest-houses and seventy-two village offices, *chorás*, have been built. Besides these works six dispensaries and 190 cattle pounds have been constructed.

Municipalities.

In 1877-78 there were five municipalities, all of them established since 1857. The total municipal revenue in 1877-78 amounted to £5356 (Rs. 53,560). Of this sum £2703 (Rs. 27,030) were recovered from octroi dues, £431 (Rs. 4310) from a toll and wheel-tax, £464 (Rs. 4640) from a house-tax, and £1758 (Rs. 17,580) from miscellaneous sources. Under the provisions of the Bombay District Municipal Act VI. of 1873 all these municipalities are town municipalities administered by a body of commissioners with the Collector as president and the assistant or deputy collector in charge of the sub-division as vice president, the commissioners being chosen in the proportion of at least two non-official to each official member.

The following statement gives for each municipality the receipts, charges, and the incidence of taxation during the year ending 31st March 1878:—

Kaira Municipal Details, 1878.

Name.	Date.	Population.	Receipts.				
			Octroi.	House-tax.	Toll or Wheel tax.	Miscellaneous.	Total.
			£	£	£	£	£
Kaira	15th Feb. 1857 ..	12,681	210	464	...	81	755
Kapadvanj	7th May 1863 .	13 982	484	...	21	163	668
Mehmadabad ...	15th Aug. 1863 ...	8065	139	..	23	182	344
Dákor...	20th June 1864 ...	7740	925	...	..	1056	1981
Nadiád	16th May 1866 ..	24,551	945	...	387	276	1608
	Total ...	67,019	2703	464	431	1758	5356

Name.	Date.	Expenditure.								Incidence of taxation.
		Establishment	Safety.	Health.	Instruction.	Convenience.		Miscellaneous.	Total.	
						New Works.	Repairs.			
		£	£	£	£	£	£	£	£	s. d.
Kaira	15th Feb. 1857 .	109	178	264	54	70	53	24	752	1 2
Kapadvanj	7th May 1863 .	71	159	364	49	22	79	10	754	0 11
Mehmadabad	15th Aug. 1863 .	20	67	243	10	49	18	5	412	0 10
Dákor ..	20th June 1864 .	64	170	555	31	283	10	1042	2155	5 1
Nadiád ..	16th May 1866 .	130	390	784	81	441	114	96	2038	1 3
	Total ..	394	964	2210	225	865	274	1179	6111	...

Cotton.

At present (1878) an establishment in connection with the Cotton Frauds Act (Bombay Act IX. of 1863) for preventing the adulteration of cotton is, under the control of the Collector, maintained at a total yearly cost of £180 (Rs. 1800). This charge is met from the cotton improvement fund framed under the provisions of the Act. The establishment consists of a sub-inspector drawing a monthly salary of £12 (Rs. 120), and a messenger on 18*s*. (Rs. 9) a month.

Chapter XI. Instruction.

total average attendance of 10,308 out of 14,930 names on the rolls or 2·42 per cent of 425,147, the total population of not more than twenty years of age. A comparison with the returns for 1850 gives therefore for 1877-78 an increase in the number of schools from seven to 190; while of 425,147, the entire population of the district of not more than twenty years of age, 2·42 per cent were under instruction in 1877-78 against 0·14 per cent in 1850-51.[1]

Girls' schools.

Girls' schools have been introduced during the last twenty years. Rising from four in 1865-66 to thirteen in 1873-74, they have again (1877-78) fallen to ten. But the attendance has contined to increase, the total number on the rolls rising from 309 in1865 to 517 in 1873 and 765 in 1878, and the average attendance from 162 in 1865 to 281 in 1873 and 405 in 1878.

Population able to read and write, 1872.

The 1872 census returns give for each of the chief races of the district the proportion of persons able to read and write:—

Hindus.

Of 143,485, the total Hindu male population not exceeding twelve years, 9132 or 6·36 per cent; of 62,493 above twelve and not exceeding twenty years, 7526 or 12·04 per cent; and of 176,162 exceeding twenty years, 20,928 or 11·87 per cent were able to read and write or were being taught. Of 116,458, the total Hindu female population not exceeding twelve years, 104 or 0·08 per cent; of 48,184 above twelve and not exceeding twenty years, forty-six or 0·09 per cent; and of 164,837 exceeding twenty years, seventy-six or 0·04 per cent were able to read and write or were being taught.

Muhammadans.

Of 14,363, the total Musalmán male population not exceeding twelve years, 575 or 4 per cent; of 5698 above twelve and not exceeding twenty years, 422 or 7·40 per cent; and of 16,728 exceeding twenty years, 1178 or 7·04 per cent, were able to read and write or were being taught Of 11,783, the total Musalmán female population not exceeding twelve years, three or 0·02 per cent; of 5155 above twelve and not exceeding twenty years, sixteen or 0·31 per cent; and of 17,014 exceeding twenty years, thirty-three or 0·19 per cent, were able to read and write or were being taught.

Pársis.

Of seventeen, the total Pársi male population not exceeding twelve years, eight or 47·05 per cent; of six above twelve and not exceeding twenty years, six or cent per cent; and of eighteen exceeding twenty years, seventeen or 94·44 per cent, were able to read and write or were being taught. Of fifteen the total Pársi female population not exceeding twelve years, six or 40 per cent; and of twelve exceeding twenty years, five or 41·66 per cent, were able to read and write or were being taught.

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[1] In the census of 1846 the total population of the district was returned at 566,513 souls, and in that of 1872 at 782,733, of whom persons not exceeding twenty years of age numbered 407,818. On the basis of these figures, the totals of population not more than twenty years of age for 1851, 1856, 1866, and 1876 have been calculated. Details of private schools are available only for 1875-76 and have therefore been left out.

Pupils by race, 1865-1878.

Before the year 1865-66 there were no returns arranging the pupils according to race and religion. The statement[1] given in the margin shows that of the three chief races of the district, the Pársis have the largest proportion of their boys and girls under instruction. Since 1865 a considerable advance has been madeby the Musalmáns. Of 765 the total number of girls enrolled in 1877-78 in the ten girls' schools, 731 or 95·56 per cent were Hindus; thirty or 3·92 per cent were Musalmáns; and four or 0·52 per cent were Pársis.

Pupils by Race, 1865-66 and 1877-78.

Race.	1865-66.	Per-cent.	1877-78.	Per-cent.	Increase
Hindus ..	9048	1·35	13,523	1·74	0·39
Musalmáns	551	0·82	1390	1 88	1·06
Pársis ..	37	68·51	17	23·37	−45 14
Total ..	9636	1·31	14,930	1·76	0·45

Of 13,168, the total number of pupils in Government schools at the end of December 1877, 2976 or 22·60 per cent were Bráhmans; fifty or 0·38 per cent writers, forty-two Kshatris, six Káyasths, and two Parbhus; 2747 or 20·86 per cent traders and shop-keepers, 1942 Vániás, 605 Shrávaks, thirty-nine Bhátiás, and 161 Luhánás; 4698 or 35·67 per cent cultivators, 3763 Kanbis, 246 Rajputs, 140 Káchhiás, thirty-one Mális, and 518 Kolis; 811 or 6·16 per cent craftsmen, 134 Bhávsárs, calicoprinters, twenty-one Khatris, weavers, fifteen Ghánchis, oil pressers, 141 Sonis, gold and silver smiths, 212 Suthárs, carpenters, thirty-four Kansárás, coppersmiths, 105 Luhárs, blacksmiths, seven Kadiyás, bricklayers, two Saláts, masons, fifty-seven Darjis, tailors, and eighty-three Kumbhárs, potters; 190 or 1·44 per cent bards and genealogists, 183 Bháts and seven Chárans; 179 or 1·36 per cent servants, 162 Hajáms, barbers, fifteen Dhobhis, washermen, and two Bhistis, water drawers; eleven or 0·8 per cent, Rabáris, shepherds; twenty-four or 0·18 per cent Bhois and Máchhis, fishers and labourers; eighty-seven or 0·66 per cent, labourers and miscellaneous workers, twenty-four Golás, ricepounders, twenty-one Kaláls, liquor sellers, thirty-four Rávaliás, cotton tapemakers, five Vághris, fowlers and hunters, and three Márvádis; forty-four or 0·33 per cent Mochis, shoemakers; eighty-six or 0·65 per cent religious beggars, thirty Vairágis, forty-seven Gosáis, and nine Sádhus; eighteen or 0·13 per cent Pársis; and 1245 or 9·45 per cent Musalmáns. No Dhed or Bhangia boys attended the Government schools.

The following table, prepared from special returns furnished by the education department, shows in detail the number of schools and pupils with their cost to Government.

[1] The census of 1846 gives 514,558 Hindus, 51,938 Musalmáns, and seven Pársis. The census of 1872 gives 711,619 Hindus. 70,741 Musalmáns, and sixty-eight Parsis. On the basis of these figures, the population and percentage figures for 1866 and 1876 have been calculated.

Kaira School Return 1855-56, 1865-66 and 1877-78.

Class.	Schools.			Pupils. Hindus.			Musalmáns.			Pársis.			Total.			Average Daily Attendance.		
	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.
Government.																		
High school	...	...	1	...	..	61	...	...	1	...	...	2	...	...	64	...	...	54
Anglo-vernacular	...	10	2	...	1953	139	...	90	1	...	31	3	..	2074	143	..	1319	117
Vernacular { boys	7	83	177	...	6793	12,792	...	458	1358	...	2	8	1036	7253	13,958	693	4781	9732
Vernacular { girls	...	4	10	...	302	731	...	3	30	...	4	4	...	309	765	...	162	405
Private Inspected.																		
Vernacular boys	...	1	2	...	19	241	...	..	47	...	...	...	...	19	288	...	18	171
Total ...	7	98	192	...	9067	13,764	...	551	1437	...	37	17	1036	9655	15,218	693	6280	10,479

Class.	Fee.			Cost per Pupil.			Receipts. Government.			Local Cess.			Municipalities.		
	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.
				£ s. d.	£ s. d.	£ s. d	£	£	£	£	£	£	£	£	£
Government.															
High school	...	...	2*s.* & 3*s.*	...	...	11 8 6	...	.	370	...	...	66	...	...	24
Anglo-vernacular	...	Varying from ¾*d.* to 4½*d.*	1*s.*	...	0 2 2½	3 3 3	...	439	189	...	726	37	...	...	30
Vernacular { boys	1½*d.*	Varying from ¾*d.* to 3*d.*	Varying from ¾*d.* to 3*d.*	0 7 8	0 9 3¾	0 12 6	232	829	933	..	1350	4413	...	...	...
Vernacular { girls	...	None.	None.	...		0 17 9	...		...	...		...	...	...	...
Private Inspected.															
Vernacular boys	...	1½*d.* & 3*d.*	3*d.* & 6*d.*	...	...	0 10 8	...	...	...	...	...	359	...	...	...
Total ...	...	...	...	...	...	...	232	1268	1492	...	2076	4875	...	...	54

Kaira School Return—continued.

Class.	Receipts—*continued.* Private.			Fees.			Total.			Expenditure. Instruction.			Buildings.			Libraries.		
	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Government.																		
High school	...	...	11	...	...	146	..	...	617	...	...	548	...	...	...	...	...	7
Anglo-vernacular	..	142	15	...	228	102	..	1535	373	..	1462	333	...	...	...	...	...	3
Vernacular { boys	83	50	...	...	244	730	315	2473	6076	266	2053	5911	...	1417	...	...	250	165
Vernacular { girls	...		...	...	...	...	...		359	...		339	...		...	...		4
Private Inspected.																		
Vernacular boys	...	..	65	...	...	26	...	...	91	...	...	91	..	...	...	...	...	...
Total ...	83	192	91	...	472	1004	315	4008	7516	266	3515	7238	...	1417	...	...	250	178

Class.	Expenditure—*continued.* Scholarships.			Total.			Cost to Government.			Local Cess.			Other Funds.			Total.		
	1855-56	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Government.																		
High school	..	...	62	...	...	617	...	..	370	...	...	66	...	...	181	...	...	617
Anglo-vernacular	...	...	38	...	1462	373	...	439	189	...	722	37	...	301	147	...	1462	373
Vernacular { boys	266	...	...	...	3720	6076	232	829	933	...	2891	4413	34	.	730	266	3720	6076
Vernacular { girls	...	...	...	...		359	...		...	...		359	...	...	...	...		359
Private Inspected.																		
Vernacular boys	...	...	...	...	..	91	...	...	...	...	...	...	..	...	91	...	...	91
Total ..	..	...	100	266	5182	7516	232	1268	1492	...	3613	4875	34	301	1149	266	5182	7516

Chapter XI. Instruction.

A comparison of the present (1877-78) provision for teaching the district town and country population gives the following results.

Town education, 1877-78.

In the town of Kapadvanj there were in 1877-78 three Government vernacular schools with, out of 452 names on the rolls, an average attendance of 366 pupils. Of these schools two were for boys and one for girls; the yearly cost for each pupil in the boys' schools was 11*s.* (Rs. 5½), and in the girls' school 13*s.* (Rs. 6½). In the town of Kaira there were in 1877-78 four Government schools with, out of 472 names on the rolls, an average attendance of 333 pupils. Of these schools one was an Anglo-vernacular, one an Urdu, and two were Gujaráti schools, one for boys and the other for girls. The yearly cost for each pupil was £5 1*s.* (Rs. 50½) in the Anglo-vernacular, £2 2*s.* (Rs. 21) in the girls', and from 14*s.* to 16*s.* (Rs. 7-Rs. 8) in the other schools. In the town of Nadiád there were in 1877-78 eight Government schools with, out of 1481 names on the rolls, an average attendance of 1039 pupils. Of these schools one was a High school, one an Anglo-vernacular school, four were Gujaráti boys' schools, one a Gujaráti girls' school and one an Urdu school. The yearly cost for each pupil in the high school was £9 11*s.* (Rs. 95½); in the Anglo-vernacular school, £3 4*s.* (Rs. 32); in the girls' school, £1 4*s.* (Rs. 12); in the rest it varied from 4*s.* to 18*s.* (Rs. 2-Rs. 9). The number of pupils that passed their University entrance test examination from the Nadiád high school was seven in 1873, three in 1874, four in 1875, five in 1876, and three in 1877. In the town of Mahudha there were in the year 1877-78 five Government schools with, out of 626 names on the rolls, an average attendance of 435 pupils. Of these one was an Urdu school, and four were Gujaráti schools, three for boys and one for girls. The yearly cost for each pupil varied from 10*s.* to £1 13*s.* (Rs. 5-Rs. 16½). In the town of Umreth there were in 1877-78 five Government schools with, out of 739 names on the rolls, an average attendance of 538 pupils. Of these schools four were Gujaráti schools, three for boys and one for girls, and one was an Urdu school. The yearly cost for each pupil was £1 7*s.* (Rs. 13½) in the girls', and 19*s.* (Rs. 9½) in the Urdu school; in the rest it varied from 6*s.* to 13*s.* (Rs. 3-Rs. 6½). In the town of Borsad there were in 1877-78 three vernacular schools, two for boys, and one for girls with, out of 385 names on the rolls, an average attendance of 270 pupils. The yearly cost for each pupil amounted to 12*s.* (Rs. 6).

Village education.

Exclusive of these six towns the district of Kaira was in 1877-78 provided with 158 Government vernacular schools, or on an average one school for every 3·44 inhabited villages. The following statement shows the distribution of these schools by sub-divisions:—

Kaira, Village Schools, 1877-78.

Sub-Division.	Villages.	Population.	Vernacular Schools.		Sub-Division.	Villages.	Population.	Vernacular Schools.	
			Boys.	Girls.				Boys.	Girls.
Kapadvanj .	85	72,760	9	...	Mátar ..	82	78,673	30	...
Thasra	100	85,601	18	1	A'nand ...	73	135,998	28	1
Mehmadabad.	59	73,073	17	1	Borsad ...	89	132,314	29	1
Nadiád ..	91	117,548	27	...	Total .	579	695,967	158	4

Library, 1877-78.

In the Kaira district there is one library in the town of Kaira known as the "Hadow Institute." It was established in October 1863 by Mr. Hadow, then Collector of Kaira. Supported partly by private subscriptions and partly by a contribution from the Kaira municipality, this library contains 1552 volumes and a reading room supplied with four English and seven vernacular papers. There are at present (1877-78) forty-six subscribers. The total amount realized during the year 1877-78 was £51 (Rs. 510) and the expenditure £55 (Rs. 550).

Reading rooms, 1877-78.

Besides the library in the town of Kaira, there are as shown below in different parts of the district twelve reading rooms :—

Kaira Reading Rooms, 1877-78.

Sub-division.	Town or Village.	Newspapers.		Books	Sub-division.	Town or Village.	Newspapers.		Books.
		English.	Gujaráti.				English.	Gujarati.	
Kapadvanj	Kapadvanj	1	7	601	Nadiád	Mahudha	...	4	444
Do.	Kathlál	...	2	50	Mehmadabad	Mehmadabad	...	7	376
Thásra	Thásra	1	6	18	A'nand	A'nand	...	1	19
Thásra	Dákor	...	5	292	A'nand	Nápad	...	2	51
Nadiád	Nadiád	3	16	644	A'nand	Umreth	1	3	322
Nadiád	Moholel	...	2	24	Borsad	Virsad	...	3	49

Newspapers.

In 1874 the district supported four local Gujaráti newspapers, the Kaira Niti Prakásh or Moral Luminary, of eighteen years' standing; the Kaira Vartmán or News, of fourteen years; the Nadiád Duniádád or World Redresser, of about three years' standing; and the Mahudha 'Adal Insáf' or Pure Justice. Only two of these papers, lithographed weeklies their articles chiefly borrowed, the Kaira Vartmán with a circulation of 153 and the Niti Prakásh of 115 copies are still (1878) in existence.

CHAPTER XII.

HEALTH.

Diseases.

THE prevailing disease is malarious fever. This form of sickness generally makes its appearance soon after the beginning of the rains (June-July). Fever cases increase in number and severity from the latter part of September through October into the early days of November, when as the climate grows drier and colder the disease gradually disappears. Early in this century Kaira was considered one of the healthiest places in Gujarát, and partly for this reason a large body of European troops was stationed there. But several seasons between 1820 and 1830 were marked by severe epidemics, and the troops especially the European cavalry suffered terribly. So great was the mortality that Kaira ceased to be used as a large military station. Of late years, apparently without any special cause unless the drainage of the lands to the south and west of Kaira has changed the character of the prevailing breeze, the climate has again improved and Kaira is not now considered so trying to European constitutions as several other Gujarát stations. The different forms of skin disease and ear-ache are, especially among children, very common complaints. For many years no severe epidemic visited Kaira. But in the month of April 1876 a serious outbreak of cholera occurred. In the town of Nadiád alone 905 persons were attacked. The disease came to Nadiád from Baroda. At first of a very mild type, it afterwards became more deadly. From Nadiád cholera gradually spread over almost the whole district, working on the whole from north to south or against the prevailing wind. Fresh outbreaks were, as a rule, found to have followed some great caste feast or other occasion of unusual indulgence. The disease continued throughout the hot season (March-June) gradually disappearing after the first fall of rain. Of 4973 persons attacked, about one-third or 2·11 per thousand of the total population died.

Hospitals.

In the year 1877 there were in the district of Kaira, besides the civil and police hospitals, six dispensaries all established since 1866. During the year 1877, 59,328 persons were treated in these hospitals and dispensaries, of whom 1429 were in-door and 57,899 out-door patients. All these institutions are provided with special buildings. The total amount spent in checking disease in 1877 was £2036 (Rs. 20,360); of this £1176 (Rs. 11,760) were paid from provincial revenues, £397 (Rs. 3970) from local and £463 (Rs. 4630) from municipal funds. The following working details are taken from the 1877 hospital reports.

The Kaira civil hospital has a building of its own, raised in 1873 at a cost of £2948 (Rs. 29,480), met partly from Kaira municipal and

partly from local funds. Of in-patients the total treated numbered 474. Of these 420 were cured, twenty-three left, eleven died, and twenty remained under treatment at the end of the year. The total attendance of out-patients was 6341, or a falling off on the returns of the preceding year of nearly 3000. The average daily sick for in and out-patients was 14·3 and 54·6 respectively. The chief causes of sickness were ague, syphilis, bowel diseases, ulcers, skin affections and injuries. The total number of patients treated in the police hospital was 153.

Dispensaries.

The Mehmadabad dispensary was opened in 1871. The total treated was 10,306, of whom 193 were in-patients, an increase on the year before of twenty-four. The chief diseases were eye and skin affections, ulcers, malarious fevers, rheumatism and diarrhœa. The Nadiád dispensary was opened in 1866. Including 133 in-patients the total treated numbered 14,241, an increase on the year before of nearly 1300. The principal causes of sickness were malarious fevers, eye and skin diseases, rheumatism, and venereal affections. The Borsad dispensary was opened in 1867. The total treated was 5952 including 196 in-patients, an increase of nearly 1800 on the year before. The prevailing maladies were fevers, eye and skin diseases, and ulcers. The Mahudha dispensary in the Nadiád sub-division was opened in 1869. The total treated numbered 5551, of whom forty-seven were in-patients. The chief diseases were fevers, eye and skin affections, and ulcers. The Dákor dispensary in the Thásra sub-division was opened in 1866. The total treated numbered 7299, of whom 145 were in-patients or more than 1300 less than in the year before. The chief diseases were fevers, cholera, syphilis, and eye and skin affections. The Kapadvanj dispensary was opened in 1866. The total treated was 9011, of whom eighty-eight were in-patients, or 2100 more than in the year before. The principal diseases were malarious fevers, eye and skin affections, and ulcers.

Vaccination.

In 1877-78 the work of vaccination was, under the supervision of the deputy sanitary commissioner in eastern Gujarát, carried on by nine vaccinators, with yearly salaries varying from £16 16*s.* to £28 16*s.* (Rs. 168 - Rs. 288.) Of the operators eight were distributed over the rural parts of the district, one for each sub-division. The duties of the ninth vaccinator were confined to the town of Nadiád. Exclusive of 614 re-vaccinations the total number of operations performed in the year amounted to 23,437, compared with 25,035 primary vaccinations in 1869-70.

The following abstract shows the chief points of interest connected with the age and the race of the persons vaccinated :—

Kaira, Vaccination Details, 1869-70.

Year.	Number vaccinated.									
	Sex.		Religion.					Age.		Total.
	Male.	Female.	Hindus.	Musalmáns.	Pársis.	Christians.	Others.	Under one year.	Above one year.	
1869-70	13,790	11,245	20,733	2307	1	5	1969	19,742	5293	25,035
1877-78	12,941	10,496	19,271	2477	6	25	1658	15,263	8174	23,437

Chapter XII. Health.

Cost.

The total cost of these operations was in 1877-78 £523 2*s.* (Rs. 5231), or about 5½*d.* (3⅔ as.) for each successful case. The entire charge was made up of the following items; supervision and inspection £245 18*s.* (Rs. 2459), establishment £252 (Rs. 2520), and contingencies £25 4*s.* (Rs. 252). Of these, the supervising and inspecting charges and 12*s.* (Rs. 6) on account of contingencies were wholly met from Government provincial funds. Of the remainder, the expense of £250 (Rs. 2500) was borne by the local funds, while in Nadiád the municipality paid the sum of £26 8*s.* (Rs. 264) for the services of the town vaccinator.

Vital statistics, 1871-78.

The total number of deaths in the seven years ending 1878, as shown in the Sanitary Commissioner's annual reports is 139,542, or an average yearly mortality of 19,934, or assuming the figures of the census of 1872 as a basis, of 2·55 per cent of the total population. Of the average number of deaths 15,078 or 75·64 per cent were returned as due to fever; 2022 or 10·14 per cent to bowel complaints; 751 or 3·73 per cent to cholera; 492 or 2·47 per cent to small-pox; and 1289 or 6·47 per cent to miscellaneous diseases. Deaths from violence or accidents averaged 302 or 1·52 per cent of the average mortality of the district. During the same period the number of births is returned at 115,530 souls, of whom 62,739 are entered as male and 52,791 as female children, or an average yearly birth rate of 16,504 souls; or, on the basis of the census figures, a birth rate of 2·11 per cent of the entire population of the district.[1]

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1 The figures are incorrect, for while the population of the district is increasing the returns show a birth rate less by 3430 than the death rate. The explanation probably is that nearly all the deaths, and not nearly all of the births are recorded.

CHAPTER XIII.

SUB-DIVISIONS.

Kapadvanj Sub-division.—The Kapadvanj sub-division, an irregular oblong figure about fifteen miles from north to south and thirty from east to west, is bounded on the north by the Atarsumba sub-division of Baroda territory and by portions of the Mahi Kántha; on the east by the Bálásinor state; on the south and south-west by the Thásra, Nadiád, and Mehmadabad sub-divisions of the Kaira district; and on the west by the Daskroi sub-division of Ahmedabad. The total area is 279 square miles, and the population, according to the census of 1872, 86,742 souls, or an average density of 310·90 to the square mile. In 1876-77 the realizable land revenue amounted to £14,621 (Rs. 1,46,210).

Area.

Of the total area of 279 square miles, 11 are occupied by the lands of alienated and unsettled, *mehvás*, villages. The remainder, according to the revenue survey returns, contains 128,178 acres or 74·59 per cent, of occupied land; 19,696 acres or 11·46 per cent, of culturable waste; 15,059 acres or 8·76 per cent, of unculturable waste; 3624 acres or 2·10 per cent, of grass lands; and 5276 acres or 3·07 per cent, of roads, river beds, ponds and village sites. From 147,874 acres, 43,681 have to be taken on account of alienated lands in Government villages. Of the balance of 104,193 acres, the actual area of culturable Government land, 63,733 or 61·17 per cent were in 1876-77 under tillage.

Aspect.

For the most part, especially towards the south and west, Kapadvanj is a rich, highly cultivated plain, well clothed with trees. But towards the north and east and to some extent in the south-east, are tracts of waste, *mál*, land roughened by streams and water courses and covered with brushwood.

Climate.

The climate is generally healthy and in the hot season cooler than in most of the surrounding districts, with a well distributed rainfall of about twenty-five inches.

Water.

Except the Mohar, which flowing southwards to join the Shedhi passes almost through the centre of the sub-division, and the Vátrak in the west, Kapadvanj is almost entirely without streams. Like several of the smaller Gujarát rivers the water of the Mohar is charged with soda, and though useful for domestic purposes, is of no service for irrigation except to a small extent in watering wheat. The water supply is scanty. The storage in reservoirs is insufficient for irrigation, and the wells do not yield more than is wanted for household use. The 1876 water-supply figures were 36 wells with

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steps, 1006 wells without steps, 36 water lifts, *dhekudis*, 570 ponds or reservoirs, and 96 rivers, streams, and springs.

Varying in texture from sand to mould, the soil is over the greater part of the area, of the light, *goráḍu*, class. It wants constant dressing, but when well tilled yields a good return.

Rental, 1864.

The following statement shows the arable area in Government villages, and the rates fixed in 1863-64 :—

Kapadvanj Rent-roll, 1863-64.

Tenure.	Arable Land.	Occupied. Acres.	Occupied. Rupee Assessment.	Occupied. Average acre rate. Rs. a. p.	Unoccupied. Acres.	Unoccupied. Rupee Assessment.	Unoccupied. Average acre rate. Rs. a. p.	Total. Acres.	Total. Rupee Assessment.	Total. Average acre rate. Rs. a. p.
Government.	Dry crop ..	77,419	1,00,738	1 4 10	19,513	19,241	0 15 9	96,932	1,19,979	1 3 10
	Garden .	1339	4594	3 6 11	27	51	1 14 3	1366	4645	3 6 5
	Rice	5739	15,086	2 10 1	156	360	2 4 11	5895	15,446	2 9 11
	Total...	84,497	1,20,418	1 6 9	19,696	19,652	0 15 11	104,193	1,40,070	1 5 6
Alienated.	Dry crop ...	38,551	61,038	1 9 4	...	...	...	38,551	61,038	1 9 4
	Garden .	1482	5130	3 7 5	...	...	...	1482	5130	3 7 5
	Rice	3648	9892	2 11 5	..	...	...	3648	9892	2 11 5
	Total ..	43,681	76,060	1 11 10	.	...	...	43,681	76,060	1 11 10
Total.	Dry crop ..	115,970	1,61,776	1 6 4	19,513	19,241	0 15 9	135,483	1,81,017	1 5 5
	Garden ...	2821	9724	3 7 2	27	51	1 14 3	2848	9775	3 6 11
	Rice	9387	24,978	2 10 7	156	360	2 4 11	9543	25,338	2 10 6
	Grand Total .	128,178	1,96,478	1 8 6	19,696	19,652	0 15 11	147,874	2,16,130	1 7 5

	Rs. a. p.	£. s. d.
Assessment on Government and alienated land ...	2,16,129 13 0	21,612 19 7½
Deduct—Alienations	76,060 2 0	7606 0 3
Remains	1,40,069 11 0	14,006 19 4½
Add—Quitrents	39,373 15 2	3937 7 10¾
,, —Grazing farms and river-bed tillage ...	7124 10 2	712 9 3¼
Total revenue ...	1,86,568 4 4	18,656 16 6½

The rates of assessment introduced in 1863-64 remain in force till 1891-92.

Stock, 1876-77.

The 1872 population, 86,742 souls lodged in 24,770 houses were in 1876-77 supplied with 1042 wells and 570 ponds, and owned 9442 ploughs, 2809 carts, 20,570 oxen, 14,496 cows, 17,249 buffaloes, 380 horses, 7319 sheep and goats, 537 asses, and 6 camels.

Holdings.

In 1863-64, the year of settlement, 13,383 holdings, *khátás*, were recorded, with an average area of $9\frac{23}{40}$ acres, and a rental of £1 13*s.* 10½*d.* (Rs. 11-15-0). Equally divided among the agricultural population these holdings would, for each person, represent an allotment of $2\frac{30}{40}$ acres at a yearly rent of 6*s.* 10⅜*d.* (Rs. 3-6-11). If distributed among the whole population of the sub-division, the

share per head would amount to $1\frac{31}{40}$ acres, and the incidence of the land tax to 4*s.* 5¼*d.* (Rs. 2-3-6).

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In 1876-77, of 63,733 acres, the total area of cultivated land, 4718 or 7·40 per cent were fallow or under grass. Of the remaining 59,015 acres, 3826 were twice cropped. Of the 62,841 acres under actual cultivation, grain crops occupied 55,650 or 88·55 per cent, 27,779 of them under *bájri,* Penicillaria spicata; 8513 under rice, *dángar,* Oryza sativa; 6556 under *juvár,* Sorghum vulgare; 5794 under *bávta,* Panicum frumentaceum; 4365 under *kodra,* Paspalum scrobiculatum; 2128 under wheat, *ghau,* Triticum æstivum; and 515 under miscellaneous cereals comprising barley, *jav,* Hordeum hexastichon; maize, *makái,* Zea mays; *rájgaro,* Amarantus paniculatus; and *káng,* Panicum italicum. Pulses occupied 6111 acres or 9·72 per cent, 2000 of them under *math,* Phaseolus aconitifolius; 2000 under gram, *chana,* Cicer arietinum; 1000 under *mag,* Phaseolus radiatus; 400 under *adad,* Phaseolus mungo; 300 under *tuver,* Cajanus indicus; and 411 under miscellaneous pulses comprising *guvár,* Cyamopsis psoralioides; *chola,* Vigna catiang; and *vál,* Dolichos lablab. Oil seeds occupied 471 acres or 0·75 per cent, 216 of them under *tal,* Sesamum indicum; and 255 under other oil seeds, details of which are not available. Fibres occupied 98 acres or 0·15 per cent, 93 of them under cotton, *kapás,* Gossypium herbaceum; and 5 under Bombay hemp, *san,* Crotalaria juncea. Miscellaneous crops occupied 511 acres or 0·81 per cent, 67 of them under tobacco, *tambáku,* Nicotiana tabacum; and 444 under miscellaneous vegetables and fruits.

Produce.

People, 1872.

The 1872 census returns show of a total population of 86,742 souls, 78,250 or 90·21 per cent, Hindus; 8485 or 9·78 per cent, Musalmáns; and seven under the head 'Others.' Statistics specially prepared from the enumerators' forms give the following caste details: 5750 Bráhmans; 7 Parbhus; 3557 Vániás; 489 Shrávaks; 43 Bhátiás; 7708 Kanbis; 1475 Rajputs; 270 Káchhiás; 59 Mális; 578 Bhávsárs, calicoprinters; 392 Sonis, gold and silver smiths; 958 Suthárs, carpenters; 27 Kansárás, brass and copper smiths; 791 Luhárs, blacksmiths; 283 Darjis, tailors; 3 Saláts, masons; 256 Chárans, bards and genealogists; 10 Gandhraps, songsters; 1054 Kumbhárs, potters; 1069 Hajáms, barbers; 63 Dhobhis, washermen; 6 Bhistis, water drawers; 198 Bharváds, herdsmen; 1028 Rabáris, shepherds; 882 Bhois, fishers and labourers; 50 Golás, ricepounders; 10 Bhádbhujás, grainparchers; 11 Maráthás; 279 Vághris, fowlers and hunters; 1132 Rávaliás, cotton tapemakers; 41,869 Kolis; 405 Mochis, shoemakers; 1152 Chámadiás, tanners; 232 Márvádis; 36 Ods, diggers; 18 Bajániás, acrobats; 24 Kaláls, liquor sellers; 26 Vanjárás, grain carriers; 607 Sindhvás; 52 Turis; 3413 Dheds; 274 Garudás; 1402 Bhangiás and 202 religious beggars. As regards occupation the same return arranges the population under the seven following classes: i. Employed under Government or municipal or other local authorities, 373. ii. Professional persons, 452. iii. In service or performing personal offices, 974. iv. Engaged in agriculture and with animals, (*a*) cultivators 16,780 (*b*) labourers 595, total 17,375. v. Engaged in commerce and trade, 826. vi. Employed

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in mechanical arts, manufactures, and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 7165. vii. Miscellaneous persons not classed otherwise, (*a*) women 24,298, and children 34,685, in all 58,983; and (*b*) miscellaneous persons, 594; total 59,577.

Health.

The total number of deaths registered in the five years ending 1874-75 was 8001, or an average yearly mortality of 1600, or on the basis of the 1872 census figures 1·84 per cent of 86,742, the total population of the sub-division. Of the average number of deaths, 1331 or 83·18 per cent were returned as due to fever; 31 or 1·93 per cent, to diarrhœa and dysentery; 34 or 2·12 per cent, to small-pox; 42 or 2·62 per cent, to cholera; and 137 or 8·56 per cent, to miscellaneous diseases. Deaths from accidents and violence averaged 25 or 1·56 per cent of the average mortality of the sub-division. During the same period the births of 6898 children were registered, 3829 males and 3069 females, or an average yearly birth rate of 1379 or 1·58 per cent of the population.

THA'SRA.

Tha'sra Sub-division.—The Thásra sub-division is bounded on the north by Kapadvanj and the Bálásinor state, on the east by the Panch Maháls, on the south by A'nand, and on the west by Nadiád. The total area is 255 square miles, and the population, according to the census of 1872, 85,601 souls, or an average density of 335·69 to the square mile. In 1876-77 the realizable land revenue amounted to £18,334 (Rs. 1,83,340).

Area.

Of the total area of 255 square miles, 29 are occupied by the lands of alienated and unsettled, *mehvás*, villages. The remainder, according to the revenue survey returns, contains 106,360 acres or 73·32 per cent, of occupied land; 20,684 acres or 14·26 per cent, of culturable waste; 8387 acres or 5·78 per cent, of unculturable waste; 42 acres of grass; and 9584 acres, or 6·60 per cent, of roads, ponds, river beds, and village sites. From 127,044 acres, 32,549 have to be taken on account of alienated lands in Government villages. Of the balance of 94,495 acres, the actual area of culturable Government land, 54,052 or 57·20 per cent were in 1876-77 under cultivation.

Aspect.

To the north and north-west the upland, *mál*, is bare of trees and poorly tilled. Towards the south the plain, broken only by the deep cut channel of the Shedhi, is rich and well wooded.

Climate.

Perhaps because of east winds borne across the forests of the Panch Maháls, the climate, though it differs little in temperature or rainfall, is much less healthy than that of the lands further west.

Water.

Besides the Mahi skirting the east and south-east boundary, two branches of the Shedhi, draining the lands to the north and north-east, join near the centre of the sub-division and pass south-west. During this part of its course the waters of the Shedhi flow over a bed of mud between high steep banks. A troublesome crossing at all times, its muddy bottom and strong current make it during the rainy weather almost impassable. The water supply is scanty. Wells and pools do not yield more than is wanted for domestic uses and for cattle; and nothing has yet been done by building dams

to make use of the sweet wholesome water of the Shedhi. The 18 water-supply figures were 8 wells with steps, 357 wells without steps, 13 waterlifts, *dhekudis*, 624 ponds and reservoirs, and 78 rivers, streams, and springs.

Compared with Nadiád the soil of Thásra is poor. To the north and north-west the upland, *mál*, an inferior black, except where banked into rice fields, yields no valuable crop. Towards the south the light, *gorat*, lands are, especially near the Mahi, less fertile and more sandy than the light soil of Nadiád.

Rental, 1864.

The following statement shows the arable area in Government villages, and the rates fixed in 1863-64:—

Thásra Rent-roll, 1863-1864.

Tenure.	Arable Land.	Occupied. Acres.	Occupied. Rupee Assessment.	Occupied. Average acre rate Rs. a. p.	Unoccupied. Acres.	Unoccupied. Rupee Assessment.	Unoccupied. Average acre rate Rs. a. p.	Total. Acres.	Total. Rupee Assessment.	Total. Average acre rate Rs. a. p.
Government.	Dry crop	56,273	95,800	1 11 2	19,626	25,940	1 5 1	75,899	1,21,740	1 9 8
	Garden	6081	6975	1 2 4	319	718	2 4 0	6400	7693	1 3 3
	Rice	11,457	26,016	3 2 3	739	2766	3 11 10	12.196	38,782	3 2 10
	Total ...	73,811	1,38,791	1 14 1	20,684	29,424	1 6 9	94,495	1,68,215	1 11 6
Alienated.	Dry crop ..	27,165	65.071	2 6 4	..	...	...	27,165	65,071	2 6 4
	Garden	990	3178	3 3 5	...	...	...	990	3178	3 3 5
	Rice	4394	16,842	3 13 4	...	...	.	4394	16,842	3 13 4
	Total ...	32,549	85,091	2 9 9	. .	.	...	32,549	85,091	2 9 9
Total.	Dry crop ...	83,438	1,60 871	1 14 10	19,626	25,940	1 5 1	103,064	1,86,811	1 13 0
	Garden	7071	10 153	1 6 11	319	718	2 4 0	7390	10,871	1 7 6
	Rice	15,851	52,858	3 5 4	739	2766	3 11 10	16,590	55,624	2 5 8
	Grand Total...	106,360	2,23.882	2 1 8	20,684	29,424	1 6 9	127,044	2,53,306	1 15 10

	Rs. a. p.	£. s. d.
Assessment on Government and alienated land ..	2,53,306 5 0	25,330 12 7¼
Deduct—Alienations	85,090 10 0	8,509 1 3
Remains	1,68,215 11 0	16,821 11 4½
Add—Quitrents	25,769 5 0	2576 18 7½
Add—Grazing farms and river-bed tillage ...	3,123 12 11	312 7 7⅝
Total revenue ...	1,97,108 12 11	19,710 17 7¾

The rates of assessment introduced in 1863-64 remain in force till 1891-92.

Stock, 1876-77.

The 1872 population, 85,601 souls lodged in 20,582 houses, were provided with 365 wells and 624 ponds, and owned 7558 ploughs, 2368 carts, 17,572 oxen, 13,071 cows, 15,387 buffaloes, 233 horses, 6471 sheep and goats, and 286 asses.

Chapter XIII. Sub-divisions. THA'SRA.

In 1863-64, the year of settlement, 16,293 holdings, *khátás*, were recorded, with an average area of $6\frac{24}{40}$ acres, and rental of £1 0*s.* $2\frac{1}{4}$*d.* (Rs. 10-1-7). Equally divided among the agricultural population these holdings would, for each person, represent an allotment of $2\frac{19}{40}$ acres at a yearly rent of 7*s.* $8\frac{1}{8}$*d.* (Rs. 3-13-5). If distributed among the whole population of the sub-division, the share per head would amount to $1\frac{34}{40}$ acres, and the incidence of the land tax to 5*s.* $8\frac{3}{8}$*d.* (Rs. 2-13-7).

Produce.

In 1876-77 of 54,052 acres, the total area of cultivated land, 3404 or 6·29 per cent, were fallow or under grass. Of the remaining 50,648 acres, 1584 were twice cropped. Of the 52,232 acres under actual cultivation, grain crops occupied 47,059 or 90·09 per cent, 17,979 of them under *bájri*, Penicillaria spicata; 14,954 under rice, *dángar*, Oryza sativa; 7350 under *bárta*, Panicum frumentaceum; 3150 under *juvár*, Sorghum vulgare; 3135 under *kodra*, Paspalum scrobiculatum; 373 under wheat, *ghau*, Triticum æstivum; and 118 under miscellaneous cereals comprising barley, *jav*, Hordeum hexastichon; maize, *makái*, Zea mays; and *rájgara*, Amarantus paniculatus. Pulses occupied 3783 acres or 7·24 per cent, 1441 of them under gram, *chana*, Cicer arietinum; 762 under *math*, Phaseolus aconitifolius; 676 under *mag*, Phaseolus radiatus; 504 under *tuver*, Cajanus indicus; and 400 under miscellaneous pulses comprising *guvár*, Cyamopsis psoralioides; *chola*, Vigna catiang; *adad*, Phaseolus mungo; and *vál*, Dolichos lablab. Oil seeds occupied 380 acres or 0·72 per cent, 17 of them under *tal*, Sesamum indicum; and 363 under other oil seeds. Fibres occupied 500 acres or 0·95 per cent, 485 of them under cotton, *kapás*, Gossypium herbaceum; and 15 under Bombay hemp, *san*, Crotalaria juncea. Miscellaneous crops occupied 510 acres or 0·97 per cent, 247 of them under tobacco, *tambáku*, Nicotiana tabacum; 85 acres under safflower, *kasumba*, Carthamus tinctorius; and 178 under miscellaneous vegetables and fruits.

People, 1872.

The 1872 census returns show of a total population of 85,601 souls, 76,256 or 89·08 per cent, Hindus; 9335 or 10·90 per cent, Musalmáns; 7 Pársis; and 3 Christians. Statistics specially prepared from the enumerators' forms give the following caste details: 4663 Bráhmans; 3 Brahma-Kshatris; 2917 Vániás; 198 Shrávaks; 23 Bhátiás; 10,241 Kanbis; 1921 Rajputs; 137 Káchhiás; 106 Mális; 273 Bhávsárs, calicoprinters; 197 Sonis, gold and silver smiths; 600 Luhárs, blacksmiths; 1040 Suthárs, carpenters; 247 Darjis, tailors; 735 Kumbhárs, potters; 916 Hajáms, barbers; 76 Dhobhis, washermen; 554 Rabáris, shepherds; 2151 Bhois, fishers and labourers; 458 Máchhis, fishermen; 44 Golás, ricepounders; 2 Bhádbhujás, grainparchers; 41 Purabiás and Maráthás; 811 Vághris, fowlers and hunters; 839 Rávaliás, cotton tapemakers; 37,185 Kolis; 123 Mochis, shoemakers; 1429 Chámadiás, tanners; 40 Bajániás, acrobats; 26 Kaláls, liquorsellers; 127 Ods, diggers; 1068 Sindhvás; 115 Turis; 5012 Dheds and Bhangiás; and 750 religious beggars. As regards occupation the same return arranges the population under the seven following classes: i. Employed under Government or municipal or other local authorities, 798. ii. Profes-

sional persons, 1474. iii. In service, or performing personal offices, 415. iv. Engaged in agriculture and with animals, (*a*) cultivators 18,229 (*b*) labourers 607, total 18,836. v. Engaged in commerce and trade, 930. vi. Employed in mechanical arts, manufactures, and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 5149. vii. Miscellaneous persons not classed otherwise, (*a*) women 24,492, and children 32,888, in all 57,380; and (*b*) miscellaneous persons 619; total 57,999.

Health.

The total number of deaths registered in the five years ending 1874-75 was 9078, or an average yearly mortality of 1815, or on the basis of the 1872 census figures 2·12 per cent of 85,601, the total population of the sub-division. Of the average number of deaths, 1495 or 82·36 per cent were returned as due to fever; 53 or 2·92 per cent, to diarrhœa and dysentery; 39 or 2·14 per cent, to small-pox; 104 or 5·73 per cent, to cholera; and 97 or 5·34 per cent, to miscellaneous diseases. Deaths from accidents and violence averaged 27 or 1·48 per cent of the average mortality of the sub-division. During the same period the births of 6083 children were registered, 3297 males, and 2786 females, or an average yearly birth rate of 1216 or 1·42 per cent of the population.

MEHMADABAD.

Mehmadabad Sub-division.—The Mehmadabad sub-division is bounded on the north by Gáikwár territory, on the north-east by Kapadvanj, on the east by Nadiád, on the south and south-west by Mátar, and on the west and north-west by the Daskroi sub-division of the Ahmedabad district. The total area is 171 square miles, and the population, according to the census of 1872, 85,754 souls, or an average density of 501·48 to the square mile. In 1876-77 the realizable land revenue amounted to £22,761 (Rs. 2,27,610).

Area.

Of the total area of 171 square miles, 9 are occupied by the lands of alienated villages. The remainder, according to the revenue survey returns, contains 86,928 acres or 83·38 per cent, of occupied land; 6925 acres or 6·64 per cent, of culturable waste; 3988 acres or 3·82 per cent, of unculturable waste; and 6405 acres or 6·14 per cent, of roads, river beds, ponds, and villages sites. From 93,853 acres, 35,757 have to be taken on account of alienated lands in Government villages. Of the balance of 58,096 acres, the actual area of culturable Government land, 48,305 or 83·14 per cent were in 1876-77 under cultivation.

Aspect.

A rich level plain, it is except in the south somewhat open and thinly wooded.

Climate.

The climate of Mehmadabad is similar to that of Mátar.

Water.

Two rivers, the Meshvo and the Vátrak, pass through the subdivision. Both of them running nearly south-west are shallow streams flowing over sandy beds. Their banks are about twenty feet high and their beds about 150 broad. The 1876-77 water-supply figures were 16 wells with steps, 1429 wells without steps, 109 waterlifts, *dhekudis*, 403 ponds or reservoirs, and 69 rivers, streams, and springs.

Soil.

The greater part of the land is a rather poor and sandy sort of

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light, *gorádu*, soil. The rest is medium-black, *besar*, of the sort known as *kyárda* or rice land.

Rental, 1859-1863.

The following statement made to take in the parts of Mátar, Mahudha, and Jetalpur, joined together in 1862-63, shows the arable area in the Government villages of the present sub-division and the rates fixed between 1859 and 1863 :

Mehmadabad Rent-roll, 1859-1863.

Tenure.	Arable Land.	Occupied.			Unoccupied.			Total.		
		Acres.	Rupee Assessment.	Average acre rate Rs. a. p	Acres.	Rupee Assessment.	Average acre rate Rs. a. p	Acres.	Rupee Assessment.	Average acre rate Rs. a. p.
Government.	Dry crop	39,325	1,12,951	2 13 11	5562	11,969	2 2 5	44,887	1,24,920	2 12 7
	Garden	1549	6875	4 7 0	186	795	4 4 4	1735	7670	4 6 9
	Rice	10,297	54,484	5 4 8	1177	6386	5 6 9	11,474	60,870	5 4 10
	Total	51,171	1,74,310	3 6 6	6925	19,150	2 12 3	58,096	1,93,460	3 5 3
Alienated.	Dry crop	28,234	86,935	3 1 3	...	...	...	28,234	86,935	3 1 3
	Garden	2122	8441	3 15 8	...	...	...	2122	8441	3 15 8
	Rice	5401	29,685	5 7 11	...	..	...	5401	29,685	5 7 11
	Total	35,757	1,25,061	3 7 11	...	...	...	35,757	1,25,061	3 7 11
Total.	Dry crop	67,559	1,99,886	2 15 4	5562	11,969	2 2 5	73,121	2,11,855	2 14 4
	Garden	3671	15,316	4 2 9	186	795	4 4 4	3857	16,111	4 2 10
	Rice	15,698	84,169	5 5 9	1177	6386	5 6 9	16,875	90,555	5 5 10
	Grand Total	86,928	2,99,371	3 7 1	6925	19,150	2 12 3	93,853	3,18,521	3 6 3

	Rs. a. p.	£. s. d.
Assessment on Government and alienated land...	3,18,520 14 8	31,852 1 10
Deduct—Alienations	1,25,061 4 8	12,506 2 7
Remains	1,93,495 10 0	19,345 19 3
Add—Quitrents	42,779 3 4	4277 18 5
„ —Grazing farms and river-bed tillage ...	7668 12 7	766 17 6¾
Total revenue ...	2,43,907 9 11	24,390 15 2⅝

The rates of assessment introduced between 1858-59 and 1862-63 remain in force till 1891-92.

Stock, 1876-77.

The 1872 population, 85,754 souls lodged in 25,817 houses, were supplied with 1445 wells and 403 ponds and reservoirs, and owned 6460 ploughs, 2839 carts, 14,972 oxen, 5778 cows, 20,729 buffaloes, 315 horses, 7976 sheep and goats, 638 asses, and 5 camels.

Holdings.

During (1859 to 1863) the time of settlement 12,341 distinct holdings, *khátás*, were recorded, with an average area of $7\frac{2}{40}$ acres, and a rental of £1 15*s.* $2\frac{1}{5}$*d.* (Rs. 17-9-5). Equally divided among the agricultural population these holdings would, for each person, represent an allotment of $2\frac{3}{40}$ acres at a yearly rent of 10*s.* $4\frac{1}{2}$*d.*

(Rs. 5-3-0). If distributed among the whole population of the subdivision, the share per head would amount to $1\frac{8}{40}$ acres, and the incidence of the land tax to 6*s.* ½*d.* (Rs. 3-0-4.)

In 1876-77 of 48,305 acres, the total area under cultivation, 2541 or 8·70 per cent were fallow or under grass. Of the remaining 45,764 acres, 1876 were twice cropped. Of the 47,640 acres under actual cultivation, grain crops occupied 41,507 or 87·12 per cent, 15,960 of them under *bájri,* Penicillaria spicata; 8671 under rice, *dángar,* Oryza sativa; 6897 under *juvár,* Sorghum vulgare; 3613 under *kodra,* Paspalum scrobiculatum; 3531 under *bávta,* Panicum frumentaceum; 1840 under barley, *jav,* Hordeum hexastichon; 980 under wheat, *ghau,* Triticum æstivum; 15 under miscellaneous cereals comprising *káng,* Panicum italicum; and maize, *makái,* Zea mays. Pulses occupied 3627 acres or 7·61 per cent, 1324 of them under *math,* Phaseolus aconitifolius; 855 under *tuver,* Cajanus indicus; 540 under gram, *chana,* Cicer arietinum; 533 under *mag,* Phaseolus radiatus; and 375 under miscellaneous crops comprising *guvár,* Cyamopsis psoralioides; *chola,* Vigna catiang; *vál,* Dolichos lablab; and *adad,* Phaseolus mungo. Oil seeds occupied 450 acres or 0·94 per cent, 50 of them under *tal,* Sesamum indicum; and 400 under other oil seeds. Fibres occupied 631 acres, or 1·32 per cent, 581 of them under cotton, *kapás,* Gossypium herbaceum; and 50 under Bombay hemp, *san,* Crotalaria juncea. Miscellaneous crops occupied 1425 acres or 2·99 per cent, 217 of them under sugarcane, *serdi,* Saccharum officinarum; 698 under safflower, *kasumba,* Carthamus tinctorius; 360 under tobacco, *tambáku,* Nicotiana tabacum; and 150 under miscellaneous vegetables and fruits.

The 1872 census returns show of a total population of 85,754 souls, 78,395 or 91·41 per cent, Hindus; 7291 or 8·50 per cent, Musalmáns; 40 Pársis; and 28 Christians. Statistics specially prepared from the enumerators' forms give the following caste details: 5729 Bráhmans; 10 Brahma-Kshatris; 9 Parbhus; 2470 Vániás; 2806 Shrávaks; 338 Luvánás; 10,648 Kanbis; 2284 Rajputs; 1602 Káchhiás; 139 Mális; 738 Bhávsárs, calicoprinters; 348 Sonis, gold and silver smiths; 1299 Suthárs, carpenters; 670 Luhárs, blacksmiths; 355 Darjis, tailors; 75 Chunárás, bricklayers; 33 Khatris, silk and cotton weavers; 19 Ghánchis, oilpressers; 430 Bháts; 245 Chárans, bards and genealogists; 1 Ghandrap, songster; 1163 Kumbhárs, potters; 1355 Hajáms, barbers; 141 Dhobhis, washermen; 10 Bhistis, waterdrawers; 1178 Rabáris, shepherds; 1754 Bhois, fishers and labourers; 47 Khárvás, seamen; 44 Golás, ricepounders; 8 Bhádbhujás, grainparchers; 213 Maráthás; 674 Vághris, fowlers and hunters; 1206 Rávaliás, cotton tapemakers; 31,775 Kolis; 375 Mochis, shoemakers; 1342 Chámadiás, tanners; 27 Bajániás, acrobats; 12 Kaláls, liquor sellers; 270 Ods, diggers; 66 Bávchás, labourers; 4150 Dheds; 318 Garudás; 1697 Bhangiás; and 322 religious beggars. As regards occupation the same return arranges the whole population under the seven following heads: i. Employed under Government or municipal or other local authorities, 916. ii. Professional persons, 450. iii. In service or performing personal offices, 969. iv. Engaged in

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agriculture and with animals, (*a*) cultivators 16,718 (*b*) labourers 585, total 17,303. v. Engaged in commerce and trade, 854. vi. Employed in mechanical arts, manufactures, and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 8950. vii. Miscellaneous persons not classed otherwise, (*a*) women 24,502, and children 30,653, in all 55,155; and (*b*) miscellaneous persons, 1157; total 56,312.

Health.

The total number of deaths registered in the six years ending 1875-76 was 12,746, or an average yearly mortality of 2124, or on the basis of the 1872 census figures 2·47 per cent of 85,754, the total population of the sub-division. Of the average number of deaths, 1788 or 84·18 per cent were returned as due to fever; 119 or 5·60 per cent, to diarrhœa and dysentery; 16 or 0·75 per cent, to smallpox; 66 or 3·10 per cent, to cholera; and 99 or 4·66 per cent, to miscellaneous diseases. Deaths from accidents and violence averaged 36 or 1·69 per cent of the average mortality of the sub-division. During the same period the births of 11,420 children were registered, 6108 males and 5312 females, or an average yearly birth rate of 1903 or 2·21 per cent of the population.

NADIA D.

Nadiad Sub-division.—The Nadiád sub-division, situated in the centre of the Kaira district, is bounded on the north by the Kapadvanj, and on the east by the Thásra and A'nand sub-divisions. On the south is Petlád, a Baroda sub-division, and to the south-west the Mátar and to the west the Mehmadabad sub-divisions. The total area is 223 square miles, and the population, according to the census of 1872, 151,483 souls, or an average density of 679·29 to the square mile. In 1876-77 the realizable land revenue amounted to £34,863 (Rs. 3,48,630).

Area.

Of the total area of 223 square miles, 7 are occupied by the lands of alienated villages. The remainder, according to the revenue survey returns, contains 121,359 acres or 87·78 per cent, of occupied land; 2675 acres or 1·93 per cent, of culturable waste; 7034 acres or 5·08 per cent, of unculturable waste; and 7183 acres, or 5·19 per cent, of roads, river beds, ponds, and village sites. From 124,034 acres, 66,791 have to be taken on account of alienated lands in Government villages. Of the balance of 57,243 acres, the actual area of culturable Government land, 49,056 or 85·69 per cent were in the year 1876-77 under cultivation.

Aspect.

Its level surface broken by few undulations, its well grown groves of fruit and timber trees, its hedge bound and highly tilled fields, and its large strongly built villages, show Nadiád to be one of the richest parts of Gujarát.

Climate.

The climate is healthy; but except in the south and south-west, where sea breezes blow from the Gulf of Cambay, the heat during the months of March and April is excessive.

Water.

The river Shedhi entering from the east passes through the sub-division on its way to join the Sábarmati. Near the centre of its course it is from the north joined by the Mohar, and the united stream passes westward, winding between steep banks to join the

Vátrak. Except in unusually dry seasons when their water stands in pools, the streams of the Shedhi and Mohar flow throughout the year. Still the supply is scanty. The water of the Shedhi and Mohar carrying in solution some injurious salt is unfit for irrigation; the want of clay in the soil makes storage in reservoirs difficult, and the supply from wells, though plentiful and near the surface, is brackish. The 1876 water-supply figures were 26 wells with steps, 2062 wells without steps, 918 ponds and reservoirs, and 64 rivers, streams, and springs.

Soil.

Except some rice lands of medium-black, *besar*, the whole sub-division is a light, *gorat*, soil very rich and most carefully worked. Besides the ordinary grains and pulses, Nadiád produces all the better kinds of crops both early and late. The chief rainy season, *kharif*, crops are rice, tobacco, Indian millet, pulses, and several of the coarser grains. The cold weather, *rabi*, harvest is wheat and late tobacco, and the hot weather, *hari*, harvest late millet, pulse, and gram. In the best garden lands ginger, safflower, tobacco, turmeric, and sugarcane are grown.

Rental, 1865-66.

The following statement shows the arable area in Government villages, and the rates fixed in 1865-66:

Nadiád Rent-roll, 1865-66.

Tenure.	Arable Land.	Occupied. Acres.	Occupied. Rupee Assessment.	Occupied. Average acre rate. Rs. a. p.	Unoccupied. Acres.	Unoccupied. Rupee Assessment.	Unoccupied. Average acre rate Rs. a. p.	Total. Acres.	Total. Rupee Assessment.	Total. Average acre rate Rs. a. p.
Government.	Dry crop ...	42,911	1,48,899	3 7 6	2649	6489	2 1 2	45,560	1,55,388	3 10 5
	Garden ..	4580	44,100	9 10 1	2	20	10 4 0	4582	44,120	9 10 1
	Rice	7077	37,351	5 4 5	24	116	4 13 1	7101	37,467	5 4 5
	Total ...	54,568	2,30,350	4 3 6	2675	6625	2 7 7	57,243	2,36,975	4 2 3
Alienated.	Dry crop ...	52,506	1,90,652	3 9 6	...	...	...	52,506	1,90,652	3 9 6
	Garden ...	6235	51,814	8 4 11	...	...	...	6235	51,814	8 4 11
	Rice	8050	42,374	5 4 2	...	...	...	8050	42,374	5 4 2
	Total .	66,791	2,84,840	4 4 3	...	..	...	66,791	2,84,840	4 4 3
Total.	Dry crop ...	95,417	3,39,551	3 8 11	2649	6489	2 1 2	98,066	3,46,040	3 8 5
	Garden ...	10,815	95,914	8 13 4	2	20	10 4 0	10,817	95,934	8 13 11
	Rice	15,127	79,725	5 4 3	24	116	4 13 1	15,151	79,841	5 4 4
	Grand Total...	121,359	5,15,190	4 3 11	2675	6625	2 7 7	124,034	5,21,815	4 3 4

	Rs.	a.	p.	£.	s.	d.
Assessment on Government and alienated land	5,21,815	0	0	52,181	10	0
Deduct—Alienations	2,84,839	15	0	28,483	19	10½
Remains	2,36,975	1	0	23,697	10	1½
Add—Quitrents	1,32,099	8	0	13,209	19	0
,, Grazing farms and river-bed tillage	12,248	12	8	1224	17	7
Total revenue ...	3,81,323	5	8	38,132	6	8½

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The rates of assessment introduced in 1862-63 remain in force till 1891-92.

NADIA'D.

Stock, 1876-77.

The 1872 population, 151,483 souls lodged in 46,608 houses, were in 1876-77 supplied with 2088 wells and 918 ponds, and owned 9774 ploughs, 6661 carts, 22,009 oxen, 3938 cows, 30,925 buffaloes, 344 horses, 9098 sheep and goats, 1450 asses, and 44 camels.

Holdings.

In 1865-66, the year of settlement, 20,628 distinct holdings, *khátás*, were recorded, with an average area of $5\frac{35}{40}$ acres, and a rental of £1 15*s.* $1\frac{3}{4}$*d.* (Rs. 17-9-2). Equally divided among the agricultural population these holdings would, for each person, represent an allotment of $1\frac{25}{40}$ acres at a yearly rent of 9*s.* $7\frac{1}{8}$*d.* (Rs. 4-13-3). If distributed among the whole population of the sub-division, the share per head would amount to $1\frac{3}{40}$ acres, and the incidence of the land tax to 6*s.* $4\frac{1}{4}$*d.* (Rs. 3-2-10).

Produce.

In 1876-77, of 49,056 acres, the total area of cultivated land 2985 or 6·08 per cent were fallow or under grass. Of the remaining 46,071 acres, 1661 were twice cropped. Of the 47,732 acres under actual cultivation, grain crops occupied 38,022 or 79·65 per cent, 14,440 of them under *bájri*, Penicillaria spicata; 6814 under rice, *dángar*, Oryza sativa; 5641 under *bávta*, Panicum frumentaceum; 5598 under *juvár*, Sorghum vulgare; 5012 under *kodra*, Paspalum scrobiculatum; and 517 under miscellaneous cereals comprising wheat, *ghau*, Triticum æstivum; barley, *jav*, Hordeum hexastichon; maize, *makái*, Zea mays; *káng*, Panicum italicum; and *rájgara*, Amarantus paniculatus. Pulses occupied 4250 acres or 8·90 per cent, 1685 of them under *tuver*, Cajanus indicus; 1158 under *math*, Phaseolus aconitifolius; and 1407 under miscellaneous pulses comprising *guvár*, Cyamopsis psoralioides; *chola*, Vigna catiang; gram, *chana*, Cicer arietinum; *mag*, Phaseolus radiatus; *adad*, Phaseolus mungo; and *vál*, Dolichos lablab. Oil seeds occupied 359 acres or 0·75 per cent, 40 of them under *tal*, Sesamum indicum; and 319 under other oil seeds, details of which are not available. Fibres occupied 225 acres or 0·47 per cent, 199 of them under cotton, *kapás*, Gossypium herbaceum; and 26 under Bombay hemp, *san*, Crotalaria juncea. Miscellaneous crops occupied 4876 acres or 10·21 per cent, 267 of them under surgarcane, *serdi*, Saccharum officinarum; 301 under safflower, *kasumba*, Carthamus tinctorius; 3618 under tobacco, *tambáku*, Nicotiana tabacum; and 690 under miscellaneous vegetables and fruits.

People, 1872.

The 1872 census returns show of a total population of 151,483 souls 133,767 or 88·30 per cent, Hindus; 17,701 or 11·68 per cent Musalmáns; and 15 Pársis. Statistics specially prepared from the enumerators' forms give the following caste details: 9391 Bráhmans; 64 Brahma-Kshatris; 8 Parbhus; 7 Káyasths; 5587 Vániás; 699 Shrávaks; 200 Luvánás; 31739 Kanbis; 2632 Rajputs; 1308 Káchhiás; 241 Mális; 718 Bhávsárs, calicoprinters; 624 Sonis, gold and silver smiths; 407 Kansárás, brass and copper smiths; 1163 Luhárs, blacksmiths; 2065 Suthárs, carpenters; 189 Kadiás, bricklayers

10 Saláts, masons; 6 Ghánchis, oil pressers; 7 Khatris, silk and cotton weavers; 1943 Bháts, bards; 90 Chárans, bards and genealogists; 8 Ghandhraps, songsters; 518 Darjis, tailors; 1687 Kumbhárs, potters; 2036 Hajáms, barbers; 215 Dhobhis, washermen; 603 Bharvád and Rabáris, herdsmen and shepherds; 2071 Máchhis, fishermen; 348 Golás, ricepounders; 18 Bhádbhujás, grainparchers; 54 Maráthás; 3363 Vághris, fowlers and hunters; 46,380 Kolis; 617 Mochis, shoemakers; 1720 Chámadiás, tanners; 169 Bajániás, acrobats; 36 Kaláls, liquor sellers; 110 Sindhvás; 90 Turis; 12,003 Dheds and Bhangiás; and 2612 religious beggars. As regards occupation the same return arranges the whole population under the seven following classes: i. Employed under Government or municipal or other local authorities, 981. ii. Professional persons, 1084. iii. In service or performing personal offices, 981. iv. Engaged in agriculture and with animals, (*a*) cultivators 32,125 (*b*) labourers 547, total 32,672. v. Engaged in commerce and trade, 2057. vi. Employed in mechanical arts, manufactures, and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 10,002. vii. Miscellaneous persons not classed otherwise, (*a*) women 45,935, and children 54,638, in all 100,573; and (*b*) miscellaneous persons, 3133; total 103,706.

Health.

The total number of deaths registered in the five years ending 1874-75 was 19,315, or an average yearly mortality of 3863, or on the basis of the 1872 census figures 2·55 per cent of 151,483, the total population of the sub-division. Of the average number of deaths, 2594 or 67·14 per cent were returned as due to fever; 597 or 15·45 per cent, to diarrhœa and dysentery; 99 or 2·56 per cent, to small-pox; 134 or 3·46 per cent, to cholera; and 385 or 9·96 per cent, to miscellaneous diseases. Deaths from accidents and violence averaged 54 or 1·39 per cent of the average mortality of the sub-division. During the same period the births of 15,774 children were registered, 8401 males and 7373 females, or an average yearly birth rate of 3155 or 2·08 per cent of the population.

MA'TAR.

Ma'tar Sub-division.—The Mátar sub-division is bounded on the north by Daskroi and Mehmadabad, on the east by Nadiád and some Gáikwári villages, on the south by Cambay, and on the west by the Sábarmati river. Besides the main body of the sub-division are some isolated villages cut off from the rest by belts of Baroda and Cambay territory. The total area is 215 square miles, and the population, according to the census of 1872, 78,673 souls, or an average density of 365·92 to the square mile. In 1876-77 the realizable land revenue amounted to £26,772 (Rs. 2,67,720).

Area.

Of the total area of 215 square miles, 14 are occupied by the lands of alienated villages. The remainder, according to the revenue survey returns, contains 99,888 acres or 77·57 per cent, of occupied land; 14,352 acres or 11·14 per cent, of culturable waste; 8235 acres, or 6·39 per cent, of unculturable waste; and 6296 acres or 4·88 per cent, of roads, ponds, river beds, and village sites. From 114,240 acres, 59,499 have to be taken on account of alienated lands in Government villages. Of the balance of 54,741 acres the actual area of

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culturable Government land, 37,901 or 69·23 per cent were in the year 1876-77 under cultivation.

MA'TAR.

Aspect.

Slightly undulating in the north-east corner, the country is for the most part level. In many places closely hedgebound and wooded, it stretches southwards in large open black-soil plains intersected near the Gulf of Cambay by tracts of salt marsh.

Climate.

Owing to its flatness and the want of natural drainage, the climate of Mátar is oppressive in the hot season and feverish during the rains. The rainfall at the town of Kaira, nearly the centre of the sub-division, averaged during the five years ending 1877 twenty-eight inches.

Water.

There are two rivers in Mátar. The Sábarmati skirts its western boundary, and the Shedhi entering from the north-east, and receiving from the north the waters of the Vátrak, winds westward through the centre of the sub-division. The water supply is abundant. Besides the rivers, which by the help of lever-lifts water the lands of several villages, there are many reservoirs; some of them very large, particularly those at Bhaláda, Tráj, and Chánor. Wells, both temporary and permanent, are also numerous and water a large area of garden land. The 1876 water-supply figures were 6 wells with steps, 1152 wells without steps, 3 masonry and 1 earthen river dam, 372 water lifts, *dhekudis*, 456 ponds or reservoirs, 5 canals, and 58 rivers, streams, and springs.

Soil.

Most of the Mátar lands are of medium-light, *gorádu*, not so rich as in Borsad and Nadiád, but less sandy than the soils to the north of the Sábarmati. Besides the light lands there are medium-black, black, and alluvial tracts. The medium-black, *besar*, of the sort known as *kyárda* or rice land, though in small quantities, is pretty widespread. The black is found over a large area, especially in the villages along the north bank of the Shedhi and in a tract stretching from Radu southward to Chánor. Though not so rich as the Broach black soil, much of it yields heavy crops of unwatered wheat. The area of alluvial, *bhátha*, soil is small, but particularly on the Vátrak to the south of Kaira it is of very high quality.

Rental, 1862-1863.

The following statement shows the arable area in Government villages, and the rates fixed in 1862-63:

Mátar Rent-roll, 1862-63.

Tenure.	Arable Land.	Occupied.			Unoccupied.			Total.		
		Acres	Rupee Assessment.	Average acre rate. Rs. a. p.	Acres.	Rupee Assessment.	Average acre rate. Rs. a. p.	Acres.	Rupee Assessment.	Average acre rate Rs. a. p.
Government.	Dry crop	27,682	85,933	3 1 8	10,429	23,789	2 4 6	38,111	1,09,722	2 14 1
	Garden	1881	9982	5 4 11	227	942	4 2 5	2108	10,924	5 2 11
	Rice	10,826	72,020	6 10 5	3696	24,725	6 11 1	14,522	96,745	6 10 7
	Total	40,389	1,67,935	4 2 6	14,352	49,456	3 7 2	54,741	2,17,391	3 15 4

Mátar Rent-roll, 1862-63—continued.

Tenure.	Arable Land.	Occupied. Acres.	Occupied. Rupee Assessment.	Occupied. Average acre rate. Rs. a. p.	Unoccupied arable waste. Acres.	Unoccupied arable waste. Rupee Assessment.	Unoccupied arable waste. Average acre rate. Rs. a. p.	Total. Acres.	Total. Rupee Assessment.	Total. Average acre rate. Rs. a. p.
Alienated.	Dry crop ...	44,749	1,49,963	3 5 7	...	..	...	44,749	1,49,963	3 5 7
	Garden ...	3906	18,527	4 11 11	.	...	...	3906	18,527	4 11 11
	Rice	10,844	74,398	6 13 9	..	...	..	10,844	74,398	6 13 9
	Total ...	59,499	2,42,888	4 1 4		...	...	59,499	2,42,888	4 1 4
Total.	Dry crop ..	72,431	2,35,896	3 4 1	10,429	23,789	2 4 6	82,860	2,59,685	3 2 2
	Garden ...	5787	28,509	4 14 10	227	942	4 2 5	6014	29,451	4 14 4
	Rice	21,670	1,46,418	6 12 1	3696	24,725	6 11 1	25,366	1,71,143	6 11 11
	Grand Total. .	99,888	4,10,823	4 1 9	14,352	49,456	3 7 2	114,240	4,60,279	4 0 6

	Rs.	a.	p.	£.	s.	d.
Assessment on Government and alienated land ...	4,60,278	10	1	46,027	17	3½
Deduct—Alienations	2,42,887	9	9	24,288	15	2¾
Remains	2,17,391	0	4	21,739	2	0½
Add—Quitrents	73,372	4	5	7337	4	6⅜
,, —Grazing farms and river-bed tillage	23,817	1	8	2381	14	2½
Total revenue ...	3,14,580	6	5	31,458	0	9⅝

The rates of assessment introduced in 1862-63 remain in force till 1891-92.

Stock, 1876-77.

The 1872 population, 78,673 souls lodged in 25,752 houses, were in 1876-77 supplied with 1158 wells and 456 ponds, and owned 5996 ploughs, 2742 carts, 14,760 oxen, 5789 cows, 19,391 buffaloes, 372 horses, 5370 sheep and goats, and 698 asses.

Holdings.

In 1862-63, the year of settlement, 15,086 holdings, *khátás*, were recorded, with an average area of $6\frac{25}{40}$ acres, and a rental of £1 12*s.* (Rs. 16). Equally divided among the agricultural population these holdings would, for each person, represent an allotment of $2\frac{18}{40}$ acres at a yearly rent of 11*s.* $9\frac{7}{8}$*d.* (Rs. 5-14-7). If distributed among the whole population of the sub-division, the share per head would amount to $1\frac{24}{40}$ acres, and the incidence of the land tax to 7*s.* 9½*d.* (Rs. 3-14-4).

Produce, 1876-77.

In 1876-77, of 37,901 acres, the total area of cultivated land, 1951 or 5·14 per cent were fallow or under grass. Of the remaining 35,950 acres, 3584 were twice cropped. Of the 39,534 acres under actual cultivation, grain crops occupied 33,542 or 84·84 per cent, 10,634 of them under rice, *dángar*, Oryza sativa; 7503 under wheat, *ghau*, Triticum æstivum; 6484 under *bájri*, Penicillaria spicata; 4744 under *juvar*, Sorghum vulgare; 1755 under *kodra*, Paspalum scrobiculatum; 1619 under *bávta*, Panicum frumentaceum; 790 under barley, *jav*, Hordeum hexastichon; and 13 under *káng*, Panicum italicum. Pulses occupied 1780 acres or 4·50 per

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cent, 736 of them under gram, *chana*, Cicer arietinum; 515 under *math*, Phaseolus aconitifolius; 358 under *tuver*, Cajanus indicus; and 171 under miscellaneous pulses comprising *guvár*, Cyamopsis psoralioides; *chola*, Vigna catiang; *mag*, Phaseolus radiatus; and *adad*, Phaseolus mungo. Oil seeds occupied 841 acres or 2·12 per cent, 52 of them under *tal*, Sesamum indicum, and 789 under other oil seeds, details of which are not available. Fibres occupied 669 acres or 1·69 per cent, 665 of them under cotton, *kapás*, Gossypium herbaceum; and 4 under Bombay hemp, *san*, Crotalaria juncea. Miscellaneous crops occupied 2702 acres or 6·83 per cent, 1559 of them under safflower, *kasumba*, Carthamus tinctorius; 600 under tobacco, *tambáku*, Nicotiana tabacum; 362 under sugarcane, *serdi*, Saccharum officinarum; and 181 under miscellaneous vegetables and fruits.

People, 1872.

The 1872 census returns show of a total population of 78,673 souls, 70,779 or 89·96 per cent, Hindus; 7885 or 10·02 per cent, Musalmáns; 2 Parsis; and 7 Christians. Statistics specially prepared from the enumerators' forms, give the following caste details: 3105 Bráhmans; 3 Brahma-Kshatris; 1968 Vániás; 20 Shrávaks; 930 Luvánás; 13,362 Kanbis; 5458 Rajputs; 679 Káchhiás; 48 Mális; 36 Bhávsárs, calicoprinters; 165 Sonis, gold and silver smiths; 620 Luhárs, blacksmiths; 709 Suthárs, carpenters; 11 Chunárás, bricklayers; 188 Darjis, tailors; 1134 Kumbhárs, potters; 1346 Hajáms, barbers; 150 Dhobhis, washermen; 161 Chárans, bards and genealogists; 1052 Bhois, fishers and labourers; 1232 Bharváds, herdsmen; 1041 Rabáris, shepherds; 71 Golás, ricepounders; 2 Bhádbhujás, grainparchers; 19 Maráthás; 27,416 Kolis; 159 Mochis, shoemakers; 1140 Chámadiás, tanners; 217 Bajániás, acrobats; 9 Kaláls, liquor sellers; 20 Bhaváyás, actors; 895 Vághris, fowlers and hunters; 111 Ods, diggers; 5881 Dheds and Bhangiás; and 1421 religious beggars. As regards occupation the same return arranges the whole population under the seven following classes: i. Employed under Government or municipal or other local authorities, 462. ii. Professional persons, 440. iii. In service or performing personal offices, 970. iv. Engaged in agriculture and with animals, (*a*) cultivators 16,818 (*b*) labourers 2125, total 18,943. v. Engaged in commerce and trade, 944. vi. Employed in mechanical arts, manufactures, and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 4097. vii. Miscellaneous persons not classed otherwise, (*a*) women 23,590, and children 28,173, in all 51,763; and (*b*) miscellaneous persons 1054; total 52,817.

Health.

The total number of deaths registered in the five years ending 1875 was 11,041, or an average yearly mortality of 2208, or on the basis of the 1872 census figures 2·80 per cent of 78,673, the total population of the sub-division. Of the average number of deaths, 1770 or 80·16 per cent were due to fever; 144 or 6·52 per cent, to diarrhœa and dysentery; 38 or 1·72 per cent, to smallpox; 22 or 0·99 per cent, to cholera; and 207 or 9·37 per cent, to miscellaneous diseases. Deaths from accidents and violence averaged 27, or 1·22 per cent of the average mortality of the sub-division. During the same period the births of 8503 children were registered,

4573 males and 3930 females, or an average yearly birth rate of 1700 or 2·16 per cent of the population.

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A'NAND.

A'nand Sub-division.—The A'nand sub-division is bounded on the north by Thásra, on the east by the Mahi river, on the south by Borsad, and on the west by Nadiád. A'nand is a new sub-division formed in 1867 of villages taken from the Nadiád, Mahudha, Thásra, and Borsad sub-divisions. The total area is 241 square miles, and the population, according to the census of 1872, 149,952 souls, or an average density of 622·20 to the square mile. In 1876-77 the realizable land revenue amounted to £37,858 (Rs. 3,78,580).

Area.

Of the total area of 241 square miles, 17 are occupied by the lands of alienated and unsettled, *mehvási*, villages. The remainder, according to the revenue survey returns, contains 124,542 acres or 86·63 per cent, of occupied land; 2964 acres or 2·06 per cent, of culturable waste; 9796 acres or 6·81 per cent, of unculturable waste; and 6451 acres or 4·48 per cent, of roads, river beds, ponds, and village sites. From 127,506 acres 56,043 have to be taken on account of alienated lands in Government villages. Of the balance of 71,436 acres, the actual area of culturable Government land, 60,140 or 84·15 per cent were in 1876-77 under cultivation.

Aspect.

Except towards the east near the Mahi where the land is bare of trees, uneven, and seamed with deep ravines, the whole is a flat, rich plain of light soil, well tilled, and richly wooded.

Climate.

In almost all respects the climate of A'nand is like the climate of Nadiád.

Water.

The water supply is scanty. Wells are few, as they have to be sunk to a great depth, and their supplies suffice only for domestic uses. The reservoirs are small, shallow and leaky. The 1876 water supply figures are, 8 wells with steps, 1317 wells without steps, 822 ponds and reservoirs, and 12 rivers, streams, and springs.

Soil.

Except patches of black loam found in lowlying spots the soil is light, rich towards the north, and poorer and more sandy in the villages near the Mahi.

Rental, 1863-1867.

The following statement made to take in the parts of Borsad, Nadiád, Thásra, and Mahudha, joined together in 1867, shows the area of arable land in the Government villages of the present sub-division and the rates fixed between 1863 and 1867:—

A'nand Rent-roll, 1863-1867.

Tenure.	Arable Land.	Occupied.			Unoccupied.			Total.		
		Acres.	Rupee Assessment.	Agerage acre rate. Rs. a. p.	Acres.	Rupee Assessment.	Average acre rate Rs. a. p.	Acres.	Rupee Assessment.	Average acre rate. Rs. a. p.
Government.	Dry crop ...	58,824	2,06,920	3 8 10	2953	7417	2 8 2	61,777	2,16,337	3 8 0
	Garden ...	4412	39,011	8 13 6	3	99	36 2 11	4415	39,110	8 13 9
	Rice	5263	28,818	5 7 7	8	43	5 3 9	5271	28,861	5 7 7
	Total...	68,499	2,76,749	4 0 6	2964	7559	2 8 10	71,463	2,84,308	3 15 6

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A'nand Rent-roll, 1863-1867—continued.

Tenure.	Arable Land.	Occupied. Acres.	Occupied. Rupee Assessment.	Occupied. Average acre rate. Rs. a. p.	Unoccupied. Acres.	Unoccupied. Rupee Assessment.	Unoccupied. Average acre rate Rs. a. p.	Total. Acres.	Total. Rupee Assessment.	Total. Average acre rate Rs. a. p.
Alienated.	Dry crop ..	50,448	1,82,840	3 9 11	...	...	...	50,448	1,82,840	3 9 11
	Garden ...	2346	18,770	8 0 0	..	...	...	2346	18,770	8 0 0
	Rice	3249	16,842	5 2 11	...	.	...	3249	16,842	5 2 11
	Total...	56,043	2,18,452	3 14 4	...	...	...	56.043	2,18,452	3 14 4
Total.	Dry crop ..	109,272	3,91,760	3 9 4	2953	7417	2 8 2	112,225	3,99,177	3 8 11
	Garden	6758	57,781	8 8 10	3	99	36 2 11	6761	57,880	8 8 11
	Rice	8512	45,660	5 5 10	8	43	5 3 9	8520	45,703	5 5 10
	Grand Total..	124,542	4,95,201	3 15 8	2964	7559	2 8 10	127,506	5,02,760	3 15 1

	Rs. a. p.	£. s. d.
Assessment on Government and alienated lands.	5,02,759 10 11	50,275 19 4½
Deduct—Alienations	2,18,451 9 8	21,845 3 2½
Remains	2,84,308 1 3	28,430 16 1½
Add—Quitrents, &c.	90,720 14 6	9072 1 9¾
,, —Grazing farms and river-bed tillage ...	6904 12 7	690 9 6¾
Total revenue ...	3,81,933 12 4	38,193 7 6½

The rates of assessment introduced between 1863 and 1867 remain in force till 1891-92.

Stock, 1876-77.

The 1872 population, 149,952 souls lodged in 40,988 houses, were in 1876-77 supplied with 1325 wells and 822 ponds, and owned 8851 ploughs, 5982 carts, 20,696 oxen, 2917 cows, 41,222 buffaloes, 282 horses, 7205 sheep and goats, 1106 asses, and 5 camels.

Holdings.

At the time (1863-1867) of settlement, 17,087 holdings, *khátás*, were recorded, with an average area of $7\frac{12}{40}$ acres, and a rental of £2 3*s*. $\frac{1}{8}$*d*. (Rs. 21-8-1). Equally divided among the agricultural population these holdings would, for each person, represent an allotment of $1\frac{32}{40}$ acres at a yearly rent of 10*s*. 8*d*. (Rs. 5-5-4). If distributed among the whole population of the sub-division, the share per head would amount to $1\frac{6}{40}$ acres, and the incidence of the land tax to 6*s*. $8\frac{3}{4}$*d*. (Rs. 3-5-10).

Produce, 1876-77.

In 1876-77 of 60,140 acres, the total area of cultivated land, 3057 or 5·08 per cent were fallow or under grass. Of the remaining 57,083 acres, 1159 were twice cropped. Of the 58,242 acres under actual cultivation, grain crops occupied 48,689 or 83·59 per cent, 26,394 of them under *bájri*, Penicillaria spicata; 7160 under *kodra*, Paspalum scrobiculatum; 6050 under *juvár*, Sorghum vulgare; 5724 under rice, *dángár*, Oryza sativa; 3315 under *bávta*, Panicum frumentaceum; and 46 under miscellaneous cereals comprising wheat, *ghau*, Triticum æstivum; barley, *jav*, Hordeum hexastichon; maize, *makái*, Zea mays; and *rájgara*, Amarantus paniculatus.

Pulses occupied 4185 acres or 7·18 per cent, 1664 of them under *tuver*, Cajanus indicus; 1470 under *math*, Phaseolus aconitifolius; 588 under *guvár*, Cyamopsis psoralioides; and 463 under miscellaneous pulses comprising *chola*, Vigna catiang; gram, *chana*, Cicer arietinum; *mag*, Phaseolus radiatus; *adad*, Phaseolus mungo; and *vál*, Dolichos lablab. Oilseeds occupied 466 acres or 0·80 per cent, 183 of them under *tal*, Sesamum indicum; and 283 under other oilseeds, of which details are not available. Fibres occupied 1726 acres or 2·96 per cent, 1709 of them under cotton, *kapás*, Gossypium herbaceum; and 17 under Bombay hemp, *san*, Crotalaria juncea. Miscellaneous crops occupied 3176 acres or 5·45 per cent, 1011 of them under tobacco, *tambáku*, Nicotiana tabacum; 252 under *kasumba*, Carthamus tinctorius; and 1913 under miscellaneous vegetables and fruits.

People, 1872.

The 1872 census returns show of a population of 149,952 souls, 138,088 or 92·08 per cent, Hindus; 11,808 or 7·87 per cent, Musalmáns; 2 Pársis; and 54 Christians. Statistics specially prepared from the enumerators' forms give the following caste details: 9918 Bráhmans; 7 Brahma-Kshatris; 4 Parbhus; 4490 Vániás; 189 Shrávaks; 255 Bhátiás; 39,070 Kanbis; 6738 Rajputs; 1354 Káchhiás; 242 Mális; 366 Bhávsárs, calicoprinters; 559 Sonis, gold and silver smiths; 81 Kansárás, brass and copper smiths; 1001 Luhárs, blacksmiths; 2025 Suthars, carpenters; 4 Kadiás, bricklayers; 523 Darjis, tailors; 1697 Kumbhárs, potters; 1936 Hajáms, barbers; 222 Dhobhis, washermen; 626 Rabáris, shepherds; 4190 Máchhis, fishermen; 297 Golás, ricepounders; 13 Bhádbhujás, grainparchers; 12 Maráthás; 2565 Vághris, fowlers and hunters; 41,150 Kolis; 693 Mochis, shoemakers; 2046 Chámadiás, tanners; 214 Bajániás, acrobats; 19 Kaláls, liquor sellers; 198 Ods, diggers; 11 Sindhvás; 12,844 Dheds and Bhangiás; and 2529 religious beggars. As regards occupation the same return arranges the whole population under the following seven classes: i. Employed under Government or municipal or other local authorities, 922. ii. Professional persons, 1491. iii. In service or performing personal offices, 1416. iv. Engaged in agriculture and with animals, (*a*) cultivators 34,419 (*b*) labourers 356, total 35,775. v. Engaged in commerce and trade, 2147. vi. Employed in mechanical arts, manufactures, and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 10,286. Miscellaneous persons not classed otherwise, (*a*) women 43,687, and children 52,310, in all 95,997; and (*b*) miscellaneous persons, 1918; total 97,915.

Health.

The total number of deaths registered in the five years ending 1874-75 was 17,377, or an average yearly mortality of 3475, or on the basis of the 1872 census figures 2·31 per cent of 149,952, the total population of the sub-division. Of the average number of deaths, 2355 or 67·76 per cent were returned as due to ever; 422 or 12·14 per cent, to diarrhœa and dysentery; 147 or 4·23 per cent, to smallpox; 64 or 1·84 per cent, to cholera; and 443 or 12·74 per cent, to miscellaneous diseases. Deaths from accidents and violence averaged 44 or 1·26 per cent of the average mortality

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of the sub-division. During the same period the births of 14,323 children were registered, 7695 males and 6628 females, or an average yearly birth rate of 2864 or 1·90 per cent of the population.

BORSAD.

Borsad Sub-division.—The Borsad sub-division, bounded on the north by A'nand, on the east and south by the Mahi river, and on the west by the Cambay and Baroda states, is owing to the intermixture of Baroda and other villages, most broken and irregular in shape. The total area is 216 square miles, and the population, according to the census of 1872, 144,528 souls, or an average density of 669·11 to the square mile. In 1876-77 the realizable land revenue amounted to £37,698 (Rs. 3,76,980).

Area.

Of the total area of 216 square miles, 56 are occupied by the lands of alienated and unsettled, *mehvás*, villages. The remainder contains according to the revenue survey returns, 92,901 acres or 90·33 per cent, of occupied land; 2597 acres or 2·52 per cent, of culturable waste; 2953 acres or 2·87 per cent, of unculturable waste; and 4389 acres or 4·26 per cent, of roads, river-beds, ponds, and village-sites. From 95,498 acres 40,698 have to be taken on account of alienated lands in Government villages. Of the balance of 54,800 acres, the actual area of culturable Government land, 49,035 or 89·47 per cent were in 1876-77 under cultivation.

Aspect.

Except in the south near the Mahi where the ground is somewhat broken and wild, the whole is a highly cultivated plain sloping gently westwards, intersected by rich hedgerows and adorned by groves of magnificent trees.

Climate.

Occasionally during the hot season the heat is extreme, the thermometer standing as high as 105° in the shade. But such days are unusual, and as a rule the heat is tempered by a cool breeze from the Gulf of Cambay.

Water.

The Mahi forming the southern boundary is throughout the whole distance a tidal river. The shallowness of its channel, its shifting sandbanks, and the height and speed of its tidal wave, make it useless for boats. Except the Mahi, Borsad is without streams or water courses and the light unretentive soil is illsuited to the storage of water in reservoirs. Still the supply is good, there are many wells yielding enough to water 11 per cent of the whole occupied area. The water-supply figures are, 4 wells with steps, 1914 wells without steps, 807 ponds, and 17 rivers, streams, and springs.

Soil.

About a tenth part of the culturable area is blackish rice-land. The rest is a deep stratum of light soil occasionally sandy, but for the most part a fine rich mould.

Rental, 1867.

The following statement shows the arable area in Government villages, and the rates fixed in 1866-67 :

Borsad Rent-roll, 1866-67.

Tenure.	Arable Land.	Occupied. Acres.	Occupied. Rupee Assessment.	Occupied. Average acre rate. Rs. a. p.	Unoccupied. Acres.	Unoccupied. Rupee Assessment.	Unoccupied. Average acre rate. Rs. a. p.	Total. Acres.	Total. Rupee Assessment.	Total. Average acre rate. Rs. a. p.
Government.	Dry crop ...	40,436	1,72,772	4 4 4	2540	7662	3 0 3	42,976	1,80,434	4 3 2
	Garden ..	7838	60,100	7 10 8	...	...	..	7838	60,100	7 10 8
	Rice	3929	25,447	6 7 7	57	241	4 4 0	3986	25,688	6 7 1
	Total ...	52,203	2,58,319	4 15 2	2597	7903	3 0 8	54,800	2,66,222	4 13 8
Alienated.	Dry crop ...	35,942	1,55,369	4 5 2	...	...	...	35,942	1,55,369	4 5 2
	Garden ...	2937	23,693	8 1 0	...	...	...	2937	23,693	8 1 0
	Rice	1819	11,606	6 6 0	...	...	...	1819	11,606	6 6 0
	Total ...	40,698	1,90,668	4 10 11	...	...	...	40,698	1,90,668	4 10 11
Total.	Dry crop ...	76,378	3,28,141	4 4 8	2540	7662	3 0 3	78,918	3,35,803	4 4 1
	Garden ..	10,775	83,793	7 12 5	...	...	...	10,775	83,793	7 12 5
	Rice	5748	37,053	6 7 1	57	241	4 4 0	5805	37,294	3 3 4
	Grand Total ..	92,901	4,48,987	4 13 3	2597	7903	3 0 8	95,498	4,56,890	4 12 6

	Rs. a. p.	£. s. d.
Assessment on Government and alienated land...	4.56,890 0 1	45,689 0 0½
Deduct—Alienations	1,90,667 9 10	19,066 15 2¾
Remains	2,66,222 6 3	26,622 4 9⅜
Add—Quitrents	76,031 11 0	7603 3 4½
„ Grazing farms and river-bed tillage ...	44,864 8 10	4486 9 1¼
Total revenue ...	3,87,118 10 1	38,711 17 3⅛

The rates of assessment introduced in 1866-67 remain in force till 1891-92.

Stock, 1876-77.

The 1872 population, 144,528 souls lodged in 34,079 houses, were in 1876-77 supplied with 1918 wells and 807 ponds and owned 8386 ploughs, 5370 carts, 17,668 oxen, 3275 cows, 45,635 buffaloes, 440 horses, 10,441 sheep and goats, 1610 asses, and 38 camels.

Holdings.

In 1866-67, the year of settlement, 9191 holdings, *khátás*, were recorded, with an average area of $10\frac{4}{10}$ acres, and a rental of £3 12*s.* 9½*d.* (Rs. 36-6-1). Equally divided among the agricultural population these holdings would, for each person, represent an allotment of $1\frac{7}{10}$ acres at a yearly rent of 10*s.* 2¾*d.* (Rs. 5-1-10). If distributed among the whole population of the sub-division, the share per head would amount to $1\frac{1}{10}$ acres, and the incidence of the land tax to 7*s.* 5*d.* (Rs. 3-11-4).

Produce, 1876-77.

In 1876-77 of 49,035 acres, the total area of cultivated land, 2098 or 4·28 per cent were fallow or under grass. Of the remaining 46,937 acres, 911 were twice cropped. Of the 47,848 acres under actual cultivation, grain crops occupied 37,240 or 77·82 per cent, 14,187 of them under *bájri*, Penicillaria spicata; 11,504 under *kodra*, Paspalum scrobiculatum; 5850 under *juvár*, Sorghum vulgare;

Chapter XIII. Sub-divisions. Borsad.

3588 under rice, *dángar*, Oryza sativa; 2010 under *bávta*, Panicum frumentaceum; and 101 under miscellaneous cereals comprising wheat, *ghau*, Triticum æstivum; barley, *jav*, Hordeum hexastichon; *káng*, Panicum italicum; and *rájgara*, Amarantus paniculatus. Pulses occupied 3347 acres or 6·99 per cent, 1460 of them under *tuver*, Cajanus indicus; 1026 under *math*, Phaseolus aconitifolius; 612 under *guvár*, Cyamopsis psoralioides; and 249 under miscellaneous pulses comprising *chola*, Vigna catiang; gram, *chana*, Cicer arietinum; *mag*, Phaseolus radiatus; *adad*, Phaseolus mungo; and *vál*, Dolichos lablab. Oilseeds occupied 452 acres or 0·94 per cent, 423 of them under *tal*, Sesamum indicum; and 29 under other oilseeds, of which details are not available. Fibres occupied 389 acres or 0·81 per cent, all of it under cotton, *kapás*, Gossypium herbaceum. Miscellaneous crops occupied 6420 acres or 13·41 per cent, 4259 of them under tobacco, *tambáku*, Nicotiana tabacum; 731 under sugarcane, *serdi*, Saccharum officinarum; 513 under indigo, *gali*, Indigofera tinctoria; 132 under safflower, *kasumba*, Carthamus tinctorius; and 785 under miscellaneous vegetables and fruits.

People, 1872.

The 1872 census returns show of a total population of 144,528 souls, 136,084 or 94·15 per cent, Hindus; 8236 or 5·69 per cent, Musalmáns; 2 Pársis; and 206 Christians. Statistics specially prepared from the enumerators' forms give the following caste details: 5652 Bráhmans; 1 Brama-Kshatri; 34 Parbhus; 1 Káyasth; 3151 Vániás; 346 Shrávaks; 1127 Bhátiás and Luvánás; 31,871 Kanbis; 6825 Rajputs; 909 Káchhiás; 141 Mális; 665 Bhávsárs, calico-printers; 571 Sonis, gold and silver smiths; 1351 Suthárs, carpenters; 964 Luhárs, blacksmiths; 38 Kadiás, bricklayers; 4 Saláts, masons; 82 Khatris, silk and cotton weavers; 344 Darjis, tailors; 1555 Kumbhárs, potters; 1986 Hajáms, barbers; 212 Dhobhis, washermen; 913 Bháts, 27 Chárans, bards and genealogists; 913 Bhois, fishers and labourers; 305 Khárvás and Máchhis, seamen and fishermen; 28 Bharváds, herdsmen; 1480 Rabáris, shepherds; 21 Kharádis, turners; 2338 Vághris, fowlers and hunters; 879 Rávaliás, cotton tapemakers; 275 Golás, ricepounders; 55,428 Kolis; 54 Purabiás and Maráthás; 472 Mochis, shoemakers; 1927 Chámadiás tanners; 538 Bajániás, acrobats; 155 Ods, diggers; 109 Sindhvás; 108 Turis; 36 Garudás; 8074 Dheds; 3002 Bhangiás; and 902 religious beggars. As regards occupation the same return arranges the whole population under the following seven classes: i. Employed under Government or municipal or other local authorities, 777. ii. Professional persons, 1553. iii. In service or performing personal offices, 1887. iv. Engaged in agriculture and with animals, (*a*) cultivators 34,091 (*b*) labourers 1486, total 35,577. v. Engaged in commerce and trade, 469. vi. Employed in mechanical arts, manufactures, and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 8172. vii. Miscellaneous persons not classed otherwise, (*a*) women 42,463, and children 52,516, in all 94,979; and (*b*) miscellaneous persons 1114, total 96,093.

Health.

The total number of deaths registered in the six years ending 1875 was 11,374, or an average yearly mortality of 1896, or

on the basis of the 1872 census figures 1·31 per cent of 144,528, the total population of the sub-division. Of the average number of deaths, 1289 or 67·98 per cent were returned as due to fever; 242 or 12·76 per cent, to diarrhœa and dysentery; 61 or 3·22 per cent, to smallpox; 35, or 1·84 per cent, to cholera; and 246 or 12·97 per cent, to miscellaneous diseases. Deaths from accidents and violence averaged 23 or 1·21 per cent of the average mortality of the sub-division. During the same period the births of 10,066 children were registered, 5468 males and 4598 females, or an average yearly birth rate of 1677 or 1·16 per cent of the population.

CHAPTER XIV.

PLACES OF INTEREST.

A'nand, north lat. 22° 33′; east long. 73° 0′, a station on the Bombay Baroda and Central India Railway, had in 1872 2309 houses and a population of 8773 souls. Besides the ordinary sub-divisional revenue and police offices the town is provided with a post office.

A'RA'S.

A'ra's. The plain of A'rás between A'nand and the Mahi has, in modern times, been the scene of three important battles. At the first of these (1723) Rustam Ali the Imperial Governor of Surat was, through the treachery of Piláji Gáikwár, defeated and slain by Hámid Khán the deputy of Nizám-ul-Mulk. At the second (1775, February) Raghunáthráv Peshwa was defeated by Fatehsingh Gáikwár. At the third, a few months later (1775, May 18th), Fatehsingh's victorious army was, after a severe struggle, defeated by a British detachment under the command of Colonel Keatinge. Of the third battle of A'rás Mr. Forbes who was present gives the following details. The enemies' cannon silenced and their cavalry dispersed by the British artillery, a party was sent forward to take their guns. While a strong force of cavalry opposed this party's advance, a body of Marátha troops professing to be partisans of Raghunáthráv the English ally, was allowed to pass between the advanced party and the main British line. Attacked both in front and rear the forward party resisted bravely till the grenadiers, facing to the right-about to change ground, by some mistake began to retreat. The rest followed and at the same time a tumbril of shells blowing up added to the confusion. The men retreated at first in order, but getting broken at a high hedge fled to the main line. The enemy followed but were met by so steady a fire of grape shot and shell that they were driven off the ground. The British were left masters of the field and a gun that had fallen into the enemies' hand was retaken. The engagement lasted for four hours. Victory was dearly bought. Of fifteen British officers in the advanced division seven were killed and four wounded. Eighty Europeans, a number of native officers and 200 men were killed or missing.[1]

BORSAD.

Borsad, north lat. 22° 24′; east long. 72° 56′, a town twelve miles west of the Vásad railway station and twenty-four miles north-east of the port of Cambay had in 1872 4092 houses and a population of 12,214 souls. The town is protected by a double line of fortification

[1] Forbes' Or. Mem. II. 97 and 98.

the outer in disrepair, the inner in fair preservation. Though, according to tradition, Borsad dates back to a certain Rája Nal in the fourth century A.D., the fortifications are modern built by Rangoji, one of the Marátha leaders who in 1741 fixed his head-quarters at Borsad. The fort of Borsad was pretty constantly the scene of fighting till in 1748, after a siege of five months, Khanderáv Gáikwár took the town and made Rangoji prisoner. For the last thirty years a Presbyterian missionary has been settled at Borsad. He has succeeded in bringing together a Christian community of 1166 souls. Besides the ordinary sub-divisional revenue and police offices the town of Borsad is provided with a subordinate judge's court, a post office, and a dispensary. There were in 1878 three Government schools with an average attendance of 270 pupils.

BORSAD.

Chakla'si, north lat. 22° 39′; east long. 72° 59′, a town in the Nadiád sub-division had in 1872 1980 houses and a population of 7081 souls.

CHAKLA'SI.

Da'kor, north lat. 22° 45′; east long. 73° 11′, a favourite place of Hindu pilgrimage in the Thásra sub-division on the Páli branch of the Bombay Baroda and Central India Railway. It has a further interest as the spot where in 1732 Piláji Gáikwár was assassinated by the emissaries of Abhesingh viceroy of Gujarát.[1] It had in 1872, 2657 houses and a population of 7740 souls, and in 1878 a municipal revenue of £1981 (Rs. 19,810). It is provided with a post office and a dispensary.

DA'KOR.

The object of worship is an image of Krishna or Ranchodji brought to Dákor from Dwárka in Káthiáwár. About the year 1155 there lived in Dákor a certain Rámdás otherwise known as Bodháno, by caste a Kshatri. A strict devotee of Krishna, this Bodháno allowed a plant of sweet basil to grow from the palm of one of his hands. With this as his offering he used twice a year to make a pilgrimage from Dákor to Krishna's shrine at Dwárka. At length Bodháno grew old and the god, seeing that he would not long be able to pay his half-yearly visit, allowed his votary to take the Dwárka image and carry it with him to his home in Dákor. Delighted with this mark of Krishna's favour Bodháno seized the image and made good his escape from Dwárka. When the news spread that the god was gone the priests in hot pursuit, overtaking Bodháno as he reached Dákor, slew him with an arrow. With a last effort Bodháno hurled the image into the Dákor lake and the priests failing in their pursuit sat fasting by the water side. Taking pity on the strangers, Bodháno's widow prayed the god to make known his hiding place. The god granted her prayer, telling her at the same time not to part with the image but to offer the priests its weight in gold. The priests accepted the offer, and when the time for weighing came, the woman trusting to the god threw into the balance all the gold she had, a light nose-ring. This by the favour of the god weighed down the scale. Disappointed of their hopo of gain the priests refused to abide by their bargain;

1 Watson's His. of Gujarát, 110.

nor would they leave until they had exacted from the god a promise that on their return to Dwárka they should find hid in a well an image the same as the one they had lost.

DA'KOR.

The chief objects of interest at Dákor are the lake and the temple where the image of Krishna is enshrined. The lake is the largest in the Kaira district provided on three sides with a masonry wall and flights of stone steps. The temple was built in 1772 at a cost of about £10,000 (Rs. 1,00,000), by Gopál Jagannáth Támbekar a native of Sátára and banker to the Peshwa. The enclosure, entered by gateways on the north and west, is round, paved with stone and girt with walls and outhouses. The temple with brick walls and stone pillars raised on a high plinth approached on all sides by a flight of twelve stone steps, measures 168 feet from east to west and 151 from north to south and has eight domes and twenty-four turrets, the highest of ninety feet. The inside is richly ornamented; the dome with plates of talc and the doors and gratings with a costly network of silver and glass. The idol's throne, a beautiful piece of wood carving, has, at a cost of £12,500 (Rs. 1,25,000), lately been covered with gold and silver by H. H. the Gáikwár. The temple revenues are, besides pilgrim's presents, a yearly allowance of £340 (Rs. 3400) together with the rental of the two villages of Dákor and Kanjri. The ceremonial duties are distributed among a body of priests belonging to three classes, Khedáwál Bráhmans, Shrigod Bráhmans, and Tapodhans. Every full moon brings crowds of devotees to Dákor. But the chief gatherings, with from fifty to a hundred thousand pilgrims, many of them from the Deccan or from distant parts of Káthiáwár are on the October, *A'so*, and November, *Kártik*, full moons. At other full moons the number of pilgrims varies from five to ten thousand chiefly from Kaira and other parts of Gujarát. Besides the full moon fairs special gatherings are on three occasions held at Dákor, in March the *Fágan sud agiáras*; in June the car-day, *rath-játra*; and in July-August, Krishna's birth-day or *janmáshtami*. These are local gatherings of little importance. On all of these occasions persons of every caste from the Bráhman to the Dhed attend, the Dheds worshipping at a distance not being allowed to enter the temple. The passenger traffic of Dákor has increased from 126,060 in 1874 to 284,330 in 1877.

DEHVA'N.

Dehva'n, with, in 1872, a population of 3401 souls lodged in 921 houses on the Mahi in the Borsad sub-division, was once a seaport and a place of consequence. Its trade is said to have been destroyed by the competition of Cambay and the shoaling of the river. In 1824 vessels of some size might still approach it at spring tide.[1]

KAIRA.

Kaira (Kheda), north lat. 22° 45′; east long. 72° 44′, the head-quarter town of the district stands on rising ground near the meeting of the Vátrak and Sedhi twenty miles south of Ahmedabad. Surrounded by a brick wall, with streets uneven and narrow, and with tile-roofed houses solid, lofty and with much well-carved wood work, Kaira had in 1872 a population of 12,681 souls lodged in 4433

[1] Bom. Gov. Sel. XI. 108.

houses. Kaira is a very ancient city, according to one story as old as the time of the Mahábhárat (B.C. 1400) when it bore the name of Chakravati Nagari and its king Mordhuj fought and was defeated by the Pándavs.[1] The evidence of copperplate grants shows that under the name of Khaidra this town was in existence as early as the fifth century A.D.[2] About a hundred years later it is spoken of as a great city 'the birth-place of Shiláditya the conqueror of Valabhi.'[3] In modern Gujarát history Kaira holds no prominent place. Early in the eighteenth century the town passed into the hands of the Bábi family with whom it remained till in 1763 it was taken by the Maráthás under Dámáji Gáikwár. In 1775 it was a large town fortified with a brick wall, the buildings almost entirely hid by trees.[4] It was handed over to the British by A'nandráv Gáikwár in 1803 (May 3).[5] Under the British its position as a frontier station made Kaira a place of some importance. For this reason, and as it was at that time considered one of the healthiest spots in British Gujarát, a large body of troops, infantry, cavalry and artillery was collected, and barracks, hospitals, and officers' houses built. Later on (1830 ?) the transfer of the frontier station to Deesa and the removal of troops to Poona reduced the importance of Kaira as a military station. The climate also seems to have changed for the worse as in 1825 the station, especially the camp, had a name for extreme unhealthiness, the hot weather causing dreadful havoc among the European troops.[6] In 1838 the only corps stationed at Kaira was the Gujarát provincial battalion with a strength of 400 men. The cantonment was in ruins, the timber and rafters taken to Deesa to build European barracks.[7] Since the troops have been withdrawn the staff of European officers stationed at Kaira has been reduced to five, the Collector and his assistant, the superintendent of police, the executive engineer, and the civil surgeon. The climate of the station would seem of late years to have again improved. In 1860 and 1864 earthquake shocks, but too slight to cause loss of life or property, were felt.[8] During the last fifty years the population

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[1] Bom. Gov. Sel. XXIII. 146.

[2] 380-385 Sáka (A.D. 458—463), according to Cunningham Ancient Geography of India, I., 316. The inscriptions are given in J. R. A. S. new series, I., 270-277. The name Khaira is said to come from *Ketaka* the Sanskrit form of *Kevda* the sweet scented Pandanus, Cal. Jl. of Science 1838. Sukhad, the confectioners' and Ratanpur the jewellers' quarters, each about two miles from Kaira, are according to local story suburbs of the ancient city. In digging drains near Kaira (1832) many coins and marble images were found.—Briggs' Cities of Gujaráshtra, 195-196.

[3] Rás Mála, I., 20-24. There were seeral kings of Valabhi named Shiláditya whose dates vary from 421-627. Hiouen-Thsang (630-640) is thought (J. R. A. S. new series VI., II. 272) to have referred to Kaira under the form Kietchá or Kita. But the details, a kingdom of 600 miles (3000 *li*) and a town six miles (20 *li*) round, about 200 miles south of Vallabhi, do not agree with Kaira. He describes the people as mixed and well-to-do, under Málwa without a separate ruler. There were twelve Buddhist convents and many dozens of Bráhman temples and a large number of heretics.—Julien's Life of Hiouen-Thsang, 401-402.

[4] Forbes' Or. Mem. II. 77.

[5] Aitchison's Treaties, VI. 315.

[6] Heber's Travels, II. 156.

[7] Mr. Vaupell in Trans. Bom. Geo. Soc. VII. 108-109 (1838).

[8] Bom. Geo. Soc. XVII. 295.

Chapter XIV. Places of Interest. KAIRA.

remained nearly constant at 12,000. In 1838 it was 12,000; in 1851, 12,091; and in 1872, 12,681, of whom, including 2319 Shrávaks, 11,078 were Hindus, 1548 Musalmáns, forty Pársis, and fifteen Christians.

Kaira has two parts within and without the walls, or the town proper and the suburbs. The town proper may be roughly distributed among five divisions, the north, east, south, west, and central. The north division contains the *Girásiávád* or the Girásiás' quarter, with Rajputs, chiefly cultivators, and a few superior land-holders; the *Kákustekra* or the Kákus' hill with Bráhman beggars, Vánia brokers and money lenders and Kanbi cultivators; the *Náni Voharvád* or little Bohora ward with Sunni Bohora cotton carders and oil sellers, and *Undivát*, the low road, with Mochi shoemakers. The east division includes *Parmárvád* the Parmár Rajput's quarters, chiefly cultivators; *Shethvád* the merchant's ward, Shrávaks chiefly Government servants, and money lenders; *Hajámvád* the barber ward; and *Harkha párekh* street with Vánia bankers and money lenders. The south division includes *Vándariáburaj*, the monkey's tower with Káchhia cultivators and brickmakers; *Sukalvád* or the priests' quarter with Bráhman domestic priests and Government servants; *Lámbiseri*, the long street, with Shrávak and Vánia cloth-sellers, dealers, and money-lenders, and a few Bráhman beggars; *Bhávsárvád* or the calicoprinters' quarter, and *Káchhiávád* with Káchhia cultivators, bricklayers and vegetable sellers. The west division includes *Málivád* the gardener's ward with gardeners, tailors, some Bráhman beggars and trading Vániás; *Moti Voharvád*, or great Bohora ward, with Sunni Bohora oil-sellers, cotton carders, and coarse cloth dealers; *Vávvád* the well ward with Kanbi cultivators and Bhávsár calicoprinters; and *Rabárivád* the shepherd's ward, with Rabáris, who keep cows, sheep and goats, and live by selling milk and wool, and Shrávak brokers and money lenders. The central division includes the town market and the *Patelvádo* where besides the families of the headmen of the town are Shrávak shopkeepers, money lenders and a few Government servants; *Kolivád*, the Kolis' ward with poor cultivators and labourers; *Bhathivádo*, the brick-kiln ward with cultivators and Bráhmans; *Syedvád*, the Syed's ward with Musalmán cultivators and Government messengers; *Vaidvád*, the doctors' ward with Bráhmans formerly medical practitioners now beggars, and *Járola tekro*, the Járola's hill with money lenders of the Járola Vánia caste.

Outside of the town walls are seven suburbs three to the south, two to the east and one each to the north and west. The three south suburbs are *Amkápura*, called after Amkábái the sister of Tikáji Gáikwár, with Káchhia cultivators and brickmakers, and Momná Musalmán weavers; *Vághesvari* the tiger god's quarter with Márvádi low class labourers, gamblers and prostitutes; *Dhedvád* or the Dheds' ward, most of them coarse cloth weavers. The two east suburbs are the *Bávchávád*, the Bávchás' ward with Bávcha grass sellers and labourers, and *Bhangiávád*, the Bhangiás ward with Bhangia sweepers and Khálpa leather dressers. The north suburb is *Bhoivád*, the Bhois' ward with fishermen, cultivators and palanquin

bearers. The west suburb Lakmanpura, is a small hamlet of Koli labourers and cultivators.

Kaira is a place of little trade and, except the weaving, dyeing and printing of cotton cloth, of no manufactures.

Though so old a town Kaira is wanting in remains. Large bricks about eighteen inches square and three inches thick, found from time to time in the bed of the Vátrak and in digging foundations in the town, are almost the only relics. Of objects of interest there are the town walls built of brick probably about the year 1730 by Muhammad Khán Bábi then governor of the town. Repairs were provided for by a special cess known as the *másvári vero*. This yielding about £160 (Rs. 1600) a year was continued till in 1837 the town walls were rebuilt, the *masvári* cess given up and town duties levied in its stead.[1] Near the centre of the town is the court-house, a handsome building with Greek pillars. Near the court is the old jail, in 1814 the scene of a riot in which fifty-seven prisoners rose and tried to force their way out. Before the mutiny was suppressed nineteen were killed and twelve wounded. Not far from the court house is a Jain temple with some beautiful dark wood carving. Outside of the east gate is the jail with room for about 150 prisoners. Outside of the south gate are the reading-room and library with a well-proportioned clock tower built in 1868. A hundred yards beyond on the further bank of the Vátrak stands the Collector's house and office, and a mile and a half to the south-east is the camp, formerly a large cantonment, now occupied only by the police and a few of the district officers. The church, built about 1825 at a cost of £8000 (Rs. 80,000) and described by Bishop Heber (1825) as 'large and solid but clumsy,' though in good repair is seldom used.

Kaira has since 1857 been a municipal town with an income in 1878 of £756 (Rs. 7560). Besides keeping the streets in order, lighting, watering and cleaning them and providing public latrines, the municipality has repaired breaches in the town wall and in part built a bridge at the north entrance to the town. There were in 1878 four Government schools with an average attendance of 333 pupils.

Kapadvanj, north lat 23° 1′; east long. 73° 7′, the chief town of the sub-division of the same name stands on the east bank of the Mohar river thirty-six miles north-east of Kaira. A fortified town of considerable trade Kapadvanj had in 1872 a population of 13,982 souls, and in 1878 a municipal revenue of £667 (Rs. 6670).

Kapadvanj would seem to be a settlement of great antiquity. The present town contains buildings of from five to eight hundred years old and near the walls is the site of a still more ancient city. According to a local history its original name was Kapatpura or the town of deceit. But as in many other cases this name seems to be little more than an attempt to form a Sanskrit word out of a

[1] Bom. Gov. Sel. CXIV. 508.

Chapter XIV. Places of Interest. KAPADVANJ.

Prákrit name.[1] In modern times Kapadvanj has been the scene of three somewhat important battles. In 1454 in a struggle between Máhmud Khilji king of Málwa and Kutub-ud-din king of Gujarát (1451-1459), though in the end victory rested with the Gujarát army at one time they were so hard pressed that the king's crown and jewelled girdle remained in the enemy's hands. In 1725 the Maráthás under Kantáji and Piláji Gáikwár were defeated by the Imperial troops commanded by Khánahzád Khán. Eleven years later (1736) the town fell to a joint Marátha and Koli attack. From that time Kapadvanj remained in the hands of the Maráthás till, in 1816-1817, in exchange for the neighbouring territory of Bijápur, it was made over to the British. At that time Kapadvanj contained about 10,000 inhabitants; by 1857 the number had risen to 13,000; in 1864 it is returned at 14,202 and in 1872 it had slightly fallen to 13,982 souls lodged in 5025 houses.

On one of the main routes between Central India and the coast, Kapadvanj has always been a place of considerable trade. In 1816 it was a thriving well built town and in 1864 was famous for trade with enterprizing bankers and dealers, in wealth and respectability second only to those of Nadiád. Its merchants are Musalmán Bohorás of the Shia sect, 'the most enlightened and persevering people in the Kaira district, living in substantial houses models of cleanliness and order.' The business of collecting agate and moss pebbles found in the bed of the Májam river, about fifteen miles of Kapadvanj, is almost entirely in the hands of merchants of this class. Its manufactures are soap, glass, and leather butter-jars. Iron ore used to be smelted in Kapadvanj and heaps of iron slag may still be seen in the outskirts of the town. The chief articles of trade are grain and opium from Central India, and tobacco from Gujarát. Besides supplying a considerable local demand Kapadvanj goods are exported to the Panch Maháls, the Bálásinor country and Central India.

The chief objects of interest in the town are a fine reservoir and an arch in the Chálukya (1000-1300) style. Of the reservoir, according to local story the work of Siddhráj Jaisingh king of Anhilváda (1094-1143), the following legend remains. The bard of Siddhráj, an old Rajput called Bhima, sick of many diseases came to Kapadvanj to bathe and worship in the Madumati or Vátrak stream. Wandering near the river his foot slipped on the steep bank of a pool and he fell. Though sunk in deep water he struggled safely to shore, and on reaching the bank found that his youth and strength were restored. On his return to his master so greatly was he changed that at first he was not known. When his story was told, the king struck with the strangeness of his cure sent messengers to Kapadvanj to find out the wonder-working pool. But at Kapadvanj no one had heard of such a pool and their inquiry was in vain, till one Someshvarbhat a Nágar Bráhman 'a two-eyed Shiva in saintliness and knowledge' showed the messengers the

[1] Dr. Bühler. Other derivations are *Kabir pánch* the five tombs, and *Kápad vanj* the cloth town.

object of their search and explained the source of its virtue. The king ordered the sides of the pool to be clothed with masonry and a temple to be built in honour of Vishnu. To the south of this pool is an underground temple dedicated to Mahádev. This, a building of some interest, has never been properly explored. Of Musalmán remains there are, besides the town fortifications, the ruins of many fine mosques and tombs. Of modern buildings that of most note is a Jain place of worship. This temple built about twenty-five years ago at a cost of £15,000 (Rs. 1,50,000) is raised on a ten feet high stone plinth. The interior is richly ornamented with marble pillars, and a marble pavement inlaid with much delicacy and taste. At one corner is a plain underground chamber with a black stone image. The Bohora's quarter has some fine buildings among them a mosque of much beauty and many old dwellings very lofty and rich in wood carving. Near the east gate is a fine rest-house built at a cost of over £5000 (Rs. 50,000) by the widow of a rich merchant. Besides the ordinary sub-divisional revenue and police offices Kapadvanj is provided with a sub-judge's court, a post office and a dispensary. There were in 1878 three Government schools with an average attendance of 366 pupils.

KAPADVANJ.

Mahudha, north latitude 22° 49′; east long. 72° 59′, a town in the Nadiád sub-division is one of the head-quarters of the Khedávál Bráhmans. Mahudha is said to have been founded by a Hindu prince named Mandhat about two thousand years ago. It had in 1872 a population of 9384 souls lodged in 3319 houses. It is provided with a post office and a dispensary. There were in 1878 five Government schools with an average attendance of 435 pupils.

MAHUDHA.

Ma'tar, north latitude 22° 42′; east longitude 72° 42′, four miles south-west of Kaira, the chief place in the sub-division of the same name had in 1872 a population of 4804 souls lodged in 1778 houses. Besides the ordinary sub-division revenue and police offices Mátar is provided with a post office. The chief object of interest in Mátar is a Shrávak temple whose foundations were laid in 1797 by Laxmichand Dharamchand a rich Ahmedabad merchant. Afterwards subscriptions were collected and the building was completed at a cost of about £40,000 (Rs. 4,00,000). On the April, *Chaitra,* full moon and on the second and fifteenth of October, *Kártik,* large numbers of worshippers attend.

MA'TAR.

Mehmadabad, north latitude 22° 49′; east longitude 72° 48′, a station on the Bombay Baroda and Central India Railway eighteen miles south of Ahmedabad, had in 1878 a municipal revenue of £344 (Rs. 3440). Mehmadabad takes its name from Mahmud Begada who ruled in Gujarát from 1459 to 1513 and founded the city about the year 1479, fortifying it and building noble palaces.[1] The city was further improved during the reign of Mahmud III. (1536-1554) who built a deer park, an enclosure six miles[2] long and nearly as broad as a horse could run. At each corner of the park was a palace with gilded walls and roof. On the right hand side of the

MEHMADABAD.

[1] Bird's Gujarát, 212.

[2] Two *farsangs.*

Chapter XIV. Places of Interest. MEHMADABAD.

doors leading to each of the palaces was a market and in each shop a peri-faced damsel to provide everything that contributed to pleasure. During the reign of this prince and of his predecessor Muzafir II. (1513-1526) Mehmadabad was every year, on the birth-day of the Prophet, the scene of a great festival when all the learned men of the kingdom rehearsed the traditions before the court.[1] These buildings remained in repair till the close of the sixteenth century; the author of the Ain-i-Akbari (1590) referring to its many grand buildings surrounded with a wall ten miles square, its pleasure houses and its game enclosure.[2] In 1638 it was a small town pleasant and fair with a handsome castle to the west. Its people were Hindus, great spinners and traders in thread.[3] In 1666 it was of middling size spinning cotton thread for the most part of Gujarát and the neighbouring country.[4] By the end of the seventeenth century it had come to such decay that it was no more than a poor village.[5] Its population 4939 souls, in 1827, had in 1872 risen to 8065 souls lodged in 2974 houses. The town was prosperous, the houses on the whole well built and the people well-to-do with a considerable manufacture of coarse cotton cloth. Besides the gateways at the principal entrances and the remains of the line of city walls, a step well in the centre of the town said to be older than the time of Mahmud Begada, the Dhundia reservoir, and the Bhamaria[6] well on the way to Kaira are all objects of interest. The most beautiful remains are two tombs about one and a half miles east of the town, built in 1484 in honour of Mubárak Syed one of Mahmud Begada's ministers. Exclusive of the porch the larger of these tombs is only ninety-four feet square and sixty feet high with fifty-two pillars and a marble floor. Though small there is a simplicity of plan, and a solidity and balance of parts rarely if ever surpassed in any Indian tomb. The details are graceful and suitable. Double verandahs and a screen of pierced stone-work of the very finest tracery give the seclusion and repose indispensable to a mausoleum. Had it been built on a larger scale this tomb would rank among the first of its class.[7] There are three inscriptions, religious and moral precepts with no reference to the founder or the date of building. In the tomb are two shrines, one of the prime minister the other of Syed Mirán his son. To the south of the tomb are three smaller shrines, one of the architect who built the tomb and the others of Saif-ud-din and Nizám-ud-din brothers of Mirán Syed's mother. Besides the ordinary sub-division revenue and police offices the town contains a post office and a dispensary.

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[1] Bird's Gujarát, 269.
[2] Gladwin's Ain-i-Akbari, II. 64.
[3] Mandelslo, 73,74.
[4] Thevenot Voyages, V. 97.
[5] Baldeus in Churchill, III. 514.
[6] This well, now in ruins, is said to have been built by Mahmud Begada as a hot weather retreat. Above ground it has two stone arches, said to have been raised to hang the king's swing from, and four stone trellis work windows. The well, 74 feet by 24, is entered by four winding stairs and has eight underground chambers four large and four small.—Mr. Burgess' notes, 1878.
[7] Ferguson's Hist. of Indian and Eastern Architecture, III. 538.

Nadia'd,[1] north lat. 22° 44′; east long. 73° 0′, a station on the Bombay Baroda and Central India Railway, is the largest town in the district.

At the beginning of the seventeenth century (1612) Nadiád was a large town where the people made indigo.[2] In 1638 its houses were good and it had some cotton and indigo manufactures.[3] In 1666 it was a place of middle size where much cotton was made.[4] In 1775 it was one of the prettiest cities in Gujarát, nearly three miles round with a slight wall flanked at irregular distances by round towers. It had nine strong gates and a dry ditch round the walls. The people about twelve thousand families, were chiefly occupied in weaving fine cloth and other cotton manufactures. They also cut and polished Kapadvanj stones. In revenge for its siding with Fatehsing Gáikwár, Raghunathráv in that year (1775) levied from the town a fine of £6000 (Rs. 60,000).[5] In 1803 it was handed over by the Gáikwár to the British Government. In 1825 it was one of the largest towns in Gujarát, with fifteen thousand inhabitants.[6] In 1838 it carried on a considerable trade with Málwa and the interior importing grain, drugs, gums and dye stuffs, and exporting cotton, coarse cloth, calicoes, tobacco, and coarse sugar.[7] In 1847 it was a most thriving little town.[8]

Except gateways at the chief entrances no signs of its town walls remain. Its nine entrances are *Dabháni Bhágal; Pinjani Bhágal; Dumrálni Bhágal; Kolivád Bhágal; Chaklási Bhágal; Salun Bhágal; Marida Bhágal; Bilodra Bhágal;* and *Ahmedabadi Bhágal.* The town has five divisions or *pátis. Kákarkhád Páti; Kilidár* and *Halád Páti; Lákhávád Páti; Chaklási Páti,* and *Hirji Ratanji's Páti.* Besides the main divisions there are wards known by the names of particular caste or tribes. Of these the chief are *Nágarvád,* the Nágar Bráhman's ward; *Lakhávád* and *Kákarkhád* inhabited by rich Kanbi peasants; *Santhni Pipli* by Vániás; *Bhávsárvád* by calicoprinters; *Mohoti Vohorvád* and *Náni Vohorvád* by Bohorás; *Desái Vago* by Desáis, or superior landed proprietors; *Mohotu pœru* and *Nánu paru* by Kanbi cultivators; *Navágám* by Khedával Bráhmans; *Gázipura* and *Sakarkoi* by Musalmáns; *Mohota Bhátvád* and *Náhna Bhátvád* by Bháts or Rajput genealogists; *Malharpura* by Rávaliás, and *Vághrivád* by Vághris.

The 1872 census returns show a total population of 24,551 souls lodged in 9088 houses, of these 21,542, or 87·74 per cent were Hindus; 2994, or 12·19 per cent Musalmáns; and 15 Pársis. The details are: 2697 Bráhmans; 21 writers, Brahma Kshatris, and Káyasth Parbhus; 3150 Vániás and 232 Shrávaks, traders and

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1 Contributed by Javerilál Umiáshankar Yájnik, Esquire.
2 Kerr's Voyages IX. 126.
3 Mandelslo's Voyages, 73.
4 Thevenot's Travels, V. 97.
5 Forbes' Or. Mem. II. 88. To pay the tax houses were stripped of everything, the owners of their clothes and necessaries or tortured on the chance that they had secreted valuables.
6 Heber's Travels, II. 146.
7 Trans. Bom. Geo. Soc. VII. 107.
8 Briggs' Cities of Gujaráshtra, 359.

Chapter XIV. Places of Interest. NADIA D.

merchants; 6478 Kanbis, cultivators; 124 Rajputs, cultivators; 901 Káchhiás, vegetable growers; 105 Mális, gardeners; 317 Bhávsárs, calicoprinters; 6 Ghánchis, oil-pressers; 336 Sonis, gold and silver smiths; 424 Suthárs, carpenters; 407 Kansárás, brass and copper smiths; 189 Luhárs, blacksmiths; 260 Darjis, tailors; 184 Kadiyás, bricklayers; 581 Bárots or Bháts, bards; 367 Kumbhárs, potters; 355 Hajáms, barbers; 64 Dhobhis, washermen; 257 Golás, rice-pounders; 15 Bhádbhunjás, grainparchers; 38 Maráthás, labourers and servants; 37 Márvádis, labourers; 170 Bhois, fishers and servants; 11 Kaláls, liquor-sellers; 30 Rabáris, herdsmen; 1016 Kolis, cultivators and labourers; 680 Vághris, fowlers, hunters and labourers; 5 Pomlás, labourers; 403 Mochis, shoemakers; 181 Chámadiás, tanners; 499 Dheds, weavers and labourers; 60 Garudás, Dheds' priests; 452 Bhangiás, sweepers, and 484 religious beggars.

The Nadiád traders are chiefly Vániás and Bráhmans. Most of the leading merchants are local capitalists. Goods sold to distant merchants, as tobacco to Málwa traders, are usually paid for in bills of exchange, the brokers or agents who act on behalf of the distant trader taking the risk. Bills are freely cashed up to £500 (Rs. 5000) and sometimes up to £1000 (Rs. 10,000). The ordinary currency is the Bábáshái or Baroda rupee. The busy season lasts for about six months from the middle of November to the middle of May. For sugar, butter, and other articles of food the marriage months, January to May, are the busy time; and for cotton and tobacco the harvest months March to May. The chief exports are cotton, tobacco, cummin seed and *mahuda* grown in Nadiád and the country round, and mustard, *methi*, rape, *sarsav*, and other oil-seeds chiefly from Kapadvanj and Modása drawn to Nadiád as the local trade-centre. Cotton and tobacco grown by rich cultivators pass from the producer direct to the exporter, while cummin and other seeds raised in poorer districts go through the hands of the village trader before the exporter buys them. Tobacco, Nadiád's chief export, goes not only to Central India but through Bombay to the Persian Gulf, Aden, and Zanzibar. Cotton, almost entirely of the three year short-staple, *roji*, sort goes to Bombay, and cummin seed to Bombay, and to Ahmedabad and other parts of Gujarát. The manufactured articles exported from the town are yarn, snuff, and dyed cloth. The steam spinning and weaving factory opened in 1876 had, chiefly from a want of capital, to be closed in 1878. Snuff is prepared and exported by Vániás. The chief imports are sugar, molasses, spices, cotton seeds, and piece goods. Piece goods from Bombay, Surat, Broach, and Ahmedabad generally pass to the consumer direct from the importer. The imports that have increased most during the last twenty-five years are piece goods, sugar, and sugarcandy. The consumption of Manchester goods was formerly confined to the rich classes of townspeople. But the railway has placed these goods within easy reach of all and their use has spread not only to all townspeople but even to well-to-do villagers. The finer sorts of Manchester piece goods are used by Bráhmans, Vániás, and other Hindus and upper class Musalmáns. The coarse sorts of English piece goods, and the coarse cloth woven in local hand-looms have to a great extent been superseded by the produce of Ahmedabad and Bombay mills. Though

NADIA'D.

at lower prices, there still continues a fair sale for the finer produce of hand-looms. The consumption of molasses, sugar, and sugarcandy formerly confined to towns has of late spread to the rural parts of the district, and the imports of these articles for which Nadiád is the local centre show a considerable increase.

Except the bankers' union, *mahájan samast,* which in the matter of trade customs has considerable influence over the whole people there is no regular trade association.

The chief temples are the Santrám temple with large grounds where, at every full moon, a fair is held; the temples of Naráyandev, Gosáiji or Vallabhácháryа, Sváminárayan, Bhairav, •Kálka Máta, and Jain temples. The water-supply, from many fresh water springs and pools, is fair. The chief ponds are Undevál and Ratna. Besides several rest-houses there are two *sadavarts* or charity places where poor strangers visiting Nadiád are supplied with baked gram or flour and uncooked grain.

Nadiád, a municipal town had, in 1878, a revenue of £1608 (Rs. 16,080). Besides the ordinary sub-division revenue and police offices the town is provided with a subordinate judge's court, a post office, and a dispensary. Including the High School there were in 1877-78 eight Government schools with an average attendance of 1039 pupils.

NA'PA'D.

Na'pa'd with a population of 5617 souls lies fourteen miles west of the Vásad railway station in the A'nand sub-division. Till 1869 Nápád was a Mámlatdár's station. North of the village is a handsome pond said to have been built about 400 years ago by a Pathán named Tazekhán Narpáli, governor of Petlád. The sides are of brick octagonal in shape about 500 yards round with in each side a triangular flight of steps leading to the water. On the west is an *Idga,* or place of *Id* prayers, with a flight of granite steps leading to the lake. Beyond the Idga along the bank are traces of terraces and other buildings. At the end some steps lower than the bank a twenty-four arch causeway, eighty-six yards long and one and a half broad with brick side walls, stretches to a solid piece of masonry about twenty feet square in the centre of the lake. In the middle of this, on four stone pillars, is a small dome with the remains of a few broken marble figures. In the wall on the north-east corner of the lake are three round openings, and from behind them to catch the rain water two walled trenches stretch for 100 or 150 yards in opposite directions with at the meeting point the remains of handsome stone trellis work. The well, *váv,* to the east of the village, also the work of Tazekhán Narpáli was, in 1838, repaired by a Baroda merchant.[1]

OD.

Od, north latitude 22° 37′; east longitude 73° 10′, a town in the A'nand sub-division had, in 1872, a population of 8423 souls lodged in 2256 houses.

THA'SRA.

Tha'sra, north latitude 22° 48′; east longitude 73° 15′, the chief

[1] Bom. Geo. Soc. II. 52 and 53.

place in the sub-division of that name, five miles north of Dákor, had in 1872, a population of 3499 souls lodged in 1047 houses. Besides the ordinary sub-division revenue and police offices the town is provided with a post office.

SA'MARKHA. **Sa'markha**, north lat. 22° 36′; east long. 73° 2′, a town in the A'nand sub-division had in 1872 a population of 5231 souls lodged in 1415 houses.

SANDALPUR. **Sandalpur**, with, in 1872, a population of 2833 souls lodged in 671 houses is situated in the A'nand sub-division. The bank of the Mahi near this village is said to have been the site of an ancient city, of which some traces may still (1871) be seen.[1]

SA'RSA. **Sa'rsa**, north latitude 22° 33′; east longitude 73° 7′, a town in the A'nand sub-division had in 1872 a population of 5218 souls lodged in 1516 houses.

SILI. **Sili**, with, in 1872, a population of 2920 souls lodged in 725 houses in the A'nand sub-division contains a splendid reservoir built between 1821 and 1824 by Bálábái, widow of Malhár Náráyan, an officer in the Gáikwár's service. The reservoir with a temple, rest-house and well were estimated to cost £3000 (Rs. 30,000).[2]

UMRETH. **Umreth**, north latitude 22° 41′; east longitude 73° 9′, a station on the Bombay Baroda and Central India Railway had in 1826 a population of 11,823 souls lodged in 3080 houses. In 1872 the number had risen to 13,954, many of them Khedávál Bráhmans, lodged in 4997 houses. One of the largest and richest towns in the Kaira district, Umreth is provided with a sub-judge's court and a post office. There were in 1878 five schools with an average attendance of 538 pupils.

VADTA'L. **Vadta'l**[3] (WARTAL), about one and a half miles west of the Boriávi station on the Bombay Baroda and Central India Railway had in 1872 a population of 2826 souls lodged in 693 houses. The interest of Vadtál is from its connection with the Gujarát Hindu reformer Sahajánand Svámi. This man a Lucknow Bráhman, born about the year 1780, came to Gujarát in the beginning of the present century. By his character for holiness, and by the display of supernatural powers, he collected a large body of followers. An ascetic in life and a fierce denouncer of immorality especially among the priesthood, Sahajánand made many enemies and for a time was subjected to persecution. But his sufferings, kindling enthusiasm among his followers, added to his power. About 1810 he settled at Vadtál and from that time till his death in 1829 his influence steadily spread. Accepting the ordinary Hindu theology and upholding the worship of Krishna, Sahajánand contented himself with trying to mend men's ways by preaching morality and holy living. Among the disorderly classes of Káthiáwár he denounced riot and robbery, and among the rich traders of Ahmedabad and Kaira luxury and debauchery. For his followers he laid down rules for a life of almost

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1 Bom. Gov. Sel. XI., 79. 2 Bom. Gov. Sel. XI. 79.
3 The name is spelt Wartal in the map.

ascetic rigour and self-denial. Dying childless Sahajánand was in 1829 succeeded in the post of A'chárya or spiritual leader by his nephew, who in turn was, in 1862, succeeded by his nephew the present spiritual head.

Seen from the village of Vadtál the monastery forms a long row of buildings opening about the middle in a massive doorway approached by a flight of granite steps. This doorway leads into a quadrangle with a large temple in the centre. This temple, with little of interest either in form or ornament, has for its chief object of worship an image of Ranchodji or Krishna. Built in 1824 at a cost of about £7500 (Rs. 75,000), it is approached by a flight of stone steps and surrounded by a stone corridor. It is entered by three gates to the north, east, and south. Supported by fifty-six pillars the roof rises in three small and one large central dome the interiors covered with gay but tasteless paintings from scenes in Krishna's life. Round the walls are shrines dedicated to Krishna under different forms. Among these is one sacred to Sahajánand the founder of the sect. This recess is furnished with a silvered bedstead, *sukhsupa*, and pillows with a richly crested turban laid on them, and by the bed a small stool with a pair of wooden pattens and a table with a metal water jug. In a niche in one of the walls is a picture of the saint and the rest of the wall is adorned with copies of his foot marks. Of the buildings that enclose the quadrangle those on the south side, plain two-storied houses, are resting places for pilgrims. At the south-west corner is Sahajánand's house where in an upper room are kept and shown to pilgrims his bed, his drinking vessels and his clothes. Near this are the buildings allotted to *Brahmacháris*, the Bráhman inmates of the monastery. The west side of the quadrangle is filled by a large three-storied building opening on the quadrangle, the groundfloor a hall where daily the members of the establishment meet for religious teaching. The two upper stories are resting places for pilgrims at the time of the great half-yearly festivals. The whole of the north side is taken up with buildings belonging to the palace of the A'chárya or spiritual head. In one of these is a spacious hall or reception room. Behind the palace are the quarters set apart for devotees, *sádhus*, who are not Bráhmans. The buildings on the east are chiefly out-houses, stables, granaries and places for grinding grain. North-west of the centre quadrangle is a large garden and reservoir and to the east beyond the main entrance some blocks of pilgrims' rest-houses.

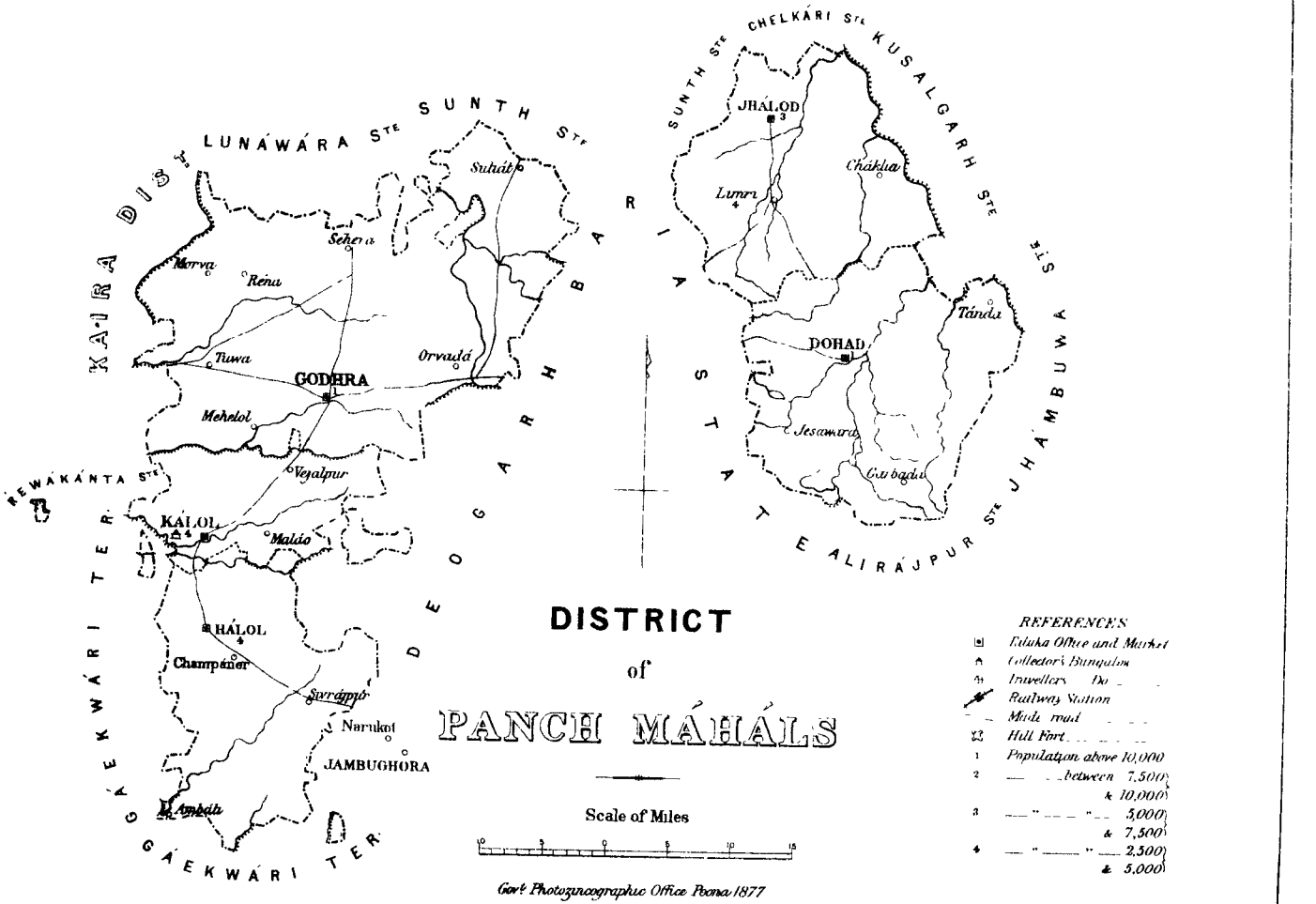
The nominal head and manager of the Vadtál monastery is the A'chárya. But as great part of his time is spent in visiting the eleven branch churches the practical management is in the hands of a steward, *kothári*. Besides providing for pilgrims and arranging matters on the great half-yearly gatherings, this steward has to feed and control from 500 to 1000 persons. The inmates belong to three classes, *Brahmacháris*, devotees of the Bráhman caste; *Sádhus* devotees of the Vánia and Rajput castes; and *Pálás*, devotees of the cultivating, artisan, and labouring classes. No members of the Dhed, Chamár, and other degraded classes, and no woman of any caste are admitted. For most of the inmates the ordinary daily routine is the

Chapter XIV. Places of Interest. VADTA'L.

same. Rising at dawn they dress and, except those who cook or perform other necessary duties, prepare themselves for early service. This service held at six in the large western hall is conducted by the A'chárya or some other teacher. It generally lasts from six till eight. From eight to twelve the inmates are at work, study in the case of some and with others labour for the common good. At noon all dine, the Bráhman devotees sitting by themselves. The food of all is millet, wheat, and rice mixed in one dish. In the amount there is no stint, but except on special occasions, condiments such as sugar, molasses, and butter do not form part of the daily meal. After dinner there is another short lecture and then rest for an hour and a half. At three all come together and remain till sunset listening to religious teaching. The next hour is devoted to the worship of the gods in the temple. After worship the great hall again fills and religious teaching goes on till eight or half-past eight. The sick and weakly then leave for supper, the rest remaining till eleven when, except a few of the more zealous who continue to pray or study, all go to bed. The devotees do not at any one time stay long at Vadtál. The *Brahmacháris* or Bráhman devotees are sent to officiate in some of the subordinate Svámi Náráyan temples ; the *Sádhus* or Vánia and Rajput devotees move about the country collecting offerings of money and grain to be taken back to Vadtál. And the *Pálas* or low caste devotees accompany their leader in his tours and visits to branch churches.

During the year two great religious gatherings are held one on *Chaitra Sud* 15*th* (April) and the other on *Kártik Sud* 15*th* (November). The first in honour of the birth of Sahajánand lasts for eight, and the second in honour of his father for six days. On both of these occasions about 20,000 pilgrims chiefly from Gujarát and Káthiáwár attend. Minor fairs with from one thousand to three thousand visitors, are held in August, September and October.

PANCH MAHÁLS.


LUNAWÁRA STE
SUNTH STE
CHELKÁRI STE
KUSALGARH STE
KAIRA DIST.
Suháli
Sehera
Morva
Réna
Tuwa
GODHRA
Orvadá
Mehelol
Vegalpur
KÁLOL
Malád
HÁLOL
Champáner
Sivrápur
Narukot
JAMBUGHORA
Ambáli
GÁEKWÁRI TER.
DEOGARH BARIA STATE
JHÁLOD
Lunáwáda
Chákliá
Tánda
DOHAD
Jesawada
Gadbada
ALIRÁJPUR STE
JHÁMBUWA STE
REWÁKÁNTA STE
DISTRICT
of
PANCH MÁHÁLS
Scale of Miles
0 5 0 5 10 15
REFERENCES
Taluka Office and Market
Collector's Bungalow
Travellers Do
Railway Station
Made road
Hill Fort
1 Population above 10,000
2 " between 7,500 & 10,000
3 " " 5,000 & 7,500
4 " " 2,500 & 5,000
Govt Photozincographic Office Poona 1877

PANCH MAHA'LS.

CHAPTER I.

DESCRIPTION.

Chapter I. Description.

THE Panch Mahâls, or five sub-divisions, lying between 22° 30′ and 23° 10′ north latitude, and 73° 35′ and 74° 10′ east longitude, have a total area of 1595 square miles and a population of 240,743 souls or 151 to the square mile. Of £26,859 (Rs. 2,68,590) the total realizable land revenue, £26,841 (Rs. 2,68,410) were recovered before the close of the year ending 31st July 1877.

Boundaries.

The five sub-divisions of the Panch Mahâls, lying in the extreme east of Gujarát, form two groups separated by a hilly and forest-clad strip of the Bâriya state, varying in breadth from about nine miles in the north to thirty in the south. The western group, the larger of the two, comprises the sub-divisions of Godhra in the north and Kálol, including the petty division of Hálol, in the south. Except the Kaira district beyond the Mahi to the north-west, this group is surrounded by native territory; Baroda lies to the south and west, Bâriya to the east, and Lunáváda and Sunth to the north. The eastern group is composed of the Dohad sub-division with, in the north, the petty division of Jhálod. Bâriya lies on the south-west and west, Lunáváda and Sunth on the north-west, the Meywár state of Kushalgad on the north and north-east, and the Málwa state of Jámbua on the east and south-east.

Sub-divisions.

The district is for administrative purposes distributed over three sub-divisions including two petty divisions. These as shewn in the following summary have on an average an area of 531 square miles, 239 villages, and 80,248 inhabitants.

Panch Mahâls Administrative Sub-divisions, 1878.

NAME.	AREA.	VILLAGES.										POPULATION, 1872.	POPULATION TO THE SQUARE MILE.	LAND REVENUE FOR THE YEAR ENDING 31ST JULY 1877.
		Government.				Alienated.			Total.					
		Villages.		Hamlets.		Villages.		Hamlets.						
		Inhabited.	Uninhabited.	Inhabited.	Uninhabited.	Inhabited.	Uninhabited.	Inhabited.	Government.	Alienated.	Total.			
														£
Godhra	583	187	4	174	4	32	1	28	191	33	224	74,014	127	6263
Kálol	406	202	46	148	2	25	2	26	248	27	275	66,431	163	9546
Dohad	606	198	1	218	15	21	...	30	199	21	220	100,298	165	11,050
Total ...	1595	587	51	540	21	78	3	84	638	81	719	240,743	151	26,859

Of the 638 Government villages, 169 are in the hands of large landholders, *tálukdárs*, and forty-six are farmed.

Chapter I. Description.

Aspect.

The western division is a plain, rising gradually to the east, little cut into by rivers, and except by some small hills in the north, and in the south where at Chámpáner the great Pávágad peak rises 2700 feet high, broken only by occasional granite-topped mounds. It forms three belts, a northern, a middle, and a southern. In the north, about twenty miles broad, lies Godhra, in parts rich and well tilled but on the whole wild and rudely cultivated, much of it covered with brushwood and forest, and in the north and east broken by bare patches of granite rock, or rising into peaks of curiously piled granite boulders. South of Godhra the lands of Kálol form a central belt about ten miles broad, highly tilled, with rich brick-built villages, their lands laid out in hedged fields studded with mango and *mahuda* groves, and marked by rows of palmyra palms whose heads rise quaintly from a growth of banian and *pipal* that clings to and hides their stems. South of Kálol the country grows gradually wilder till, after about eight miles, near Hálol the plain breaks into the spurs and ridges that centre in the massive hill of Pávágad. So far the villages are rich and well built, surrounded by carefully kept fields. But near the spurs of Pávágad and south-east about fifteen miles more to the borders of Jámbughoda, except in the western villages and in a few hamlets and forest clearings, the country is untilled and unpeopled, covered by a low growth of forest timber.

Across the rough wooded belt of Báriya land and higher by seven or eight hundred feet than the Godhra plain, Jhálod in the north and Dohad in the south form a compact block about forty miles from north to south and twenty from east to west. The surface of the country is waving, broken by many water courses, and by a succession of low abrupt and rugged stony ridges, separated by rich moist valleys broad in the north and narrower to the south. Except on the sides of some of the higher hills, the uplands and valleys are opener and less wooded than in the western division. Though somewhat bare and much of it waste, the country, well supplied with water both in streams and pools, is not wanting in beauty. In the cold season, on a back ground of soft well wooded hills, rich deep-green stretches of gram and wheat, unbroken by hedgerows, are studded with mounds and knolls, some clad with bamboo and brushwood, others bare and capped with masses of glistening snow-white quartz. Here and there are compact well built villages. But more striking are, on rising ground, each near its own plot of land, the scattered dwellings of Bhils enclosed by creeper-covered bamboo trellis-work. Later in the season the gold of the ripening wheat fields is, along the edges of streams, fringed by belts of bright white or white and red poppies, and in the hot months, though baked and bare, the land is in many places relieved by the brilliant scarlet masses of the *khákhra* or Butea frondosa. During the rainy season the whole country is fresh and green.

Hills.

In Dohad are several low steep ridges and in Godhra some granite-topped mounds and rocks. But the only hill is Pávágad, the chief natural feature, and one of the places of greatest interest, in eastern Gujarát.

Pávágad[1] about twenty-five miles south of Godhra and by road twenty-nine miles east of Baroda can, over a long distance, be clearly seen from the Bombay and Baroda railway.[2] Nearer at hand with its far stretching spurs the hill, about twenty-six miles round, rises with massive but clear cut outline about 2500 feet above the plain.[3] Its base and lower slopes are thick covered with rather stunted timber. But its shoulders and centre crest are on the south, west, and north, cliffs of bare trap, too steep for trees. Less inaccessible the eastern heights are wooded and topped by massive masonry walls and bastions rising with narrowing fronts to the scarped rock that crowns the hill. According to the local story, in a bygone age a valley ran where Pávágad now stands. On the high ground overlooking the valley lived an ascetic Vishvámitra Rishi. He owned a cow, the famous Kámduha, gifted with speech and an unfailing store of milk. Grazing on the brink of the hollow she one day slipped and unable to climb the steep sides filled the valley with milk and so swam home. Learning what had happened the holy man, to prevent another mischance, prayed that the valley might be filled. His prayer was granted, the gods sending so large a hill that three quarters of it filled the hollow. The rest standing out of the plain was called the quarter-hill, *Pávágad.*

The[4] first historic reference to Pávágad is from the bard Chand, who, in the account of Bhim Dev I. of Anhilváda (1022-1072), speaks of Rám Gaur the Tuár as Pává's lord.[5] The earliest authentic account is, about 1300, its acquisition by Chohán Rajputs, fugitives from Ranthámbhor (1299-1300) in Mewár before the army of Alá-ud-din Khilji. The Chohán chiefs, of whom the names only have been preserved, continued to hold the hill till it was taken from them by Sultán Mahmud Begada in 1484. Before Mahmud's victory the Musalmán kings of Ahmedabad had more than once tried and failed to take the fort. Of the first of these attempts, in 1418 (821 H.) during the reign of Sultán Ahmed I., no details except the fact of its failure remain. About thirty years later 1450-1452 (853-855 H.) Sultán Ahmad's son Muhammad Sháh so closely invested the fortress that the garrison was only saved by a diversion made in their favour by Mahmud Khilji of Málwa.[6] After about thirty years (1483, 17th March[7]) Mahmud Begada laid siege to the fort. Refusing to accept any terms except a surrender and preventing

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[1] A map of the Pávágad fort is given at the end of the chapter. This account of Pávágad is partly taken from Major Watson's article (Ind. Ant. LXIII. 1-9) and partly from papers kindly supplied by the Adjutant General of the Bombay Army. But the greater part is from details gathered on the spot by Mr. Acworth. Pávágad was in old inscriptions Pávakgad or the fire hill.—Major Watson, January 1879. Mr. Forbes' form Pavangad the castle of the winds (Rás Mála 285) is seldom used.

[2] Before their fall (1819) Pávágad though more than sixty miles off was visible from the minarets of the Ahmedabad Jáma mosque.—Trans. Bom. Lit. Soc. I. 140.

[3] Bom. Lit. Soc. I. 140. Captain Haig, Great Trig. Survey, 1874, gives 2727 feet as the height above mean sea level.

[4] Ptolemy's (150) Hippocura and Tiagar have been supposed to be Pávágad. —Asiatic Researches, IX. 182-224.

[5] Rás Mala, 72. Tod's Translation of the passage is different.—Annals of Rájasthán, II. 414.

[6] According to one account the lower fort was taken before Mahmud Khilji arrived.

[7] Briggs' Ferishta, IV. 66.

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the Sultán of Málwa from helping the besieged, Mahmud after a year and a half had so far advanced his positions that they overlooked the fortress. In the early dawn, when according to their custom the garrison left the walls to bathe, Kivám-ul-mulk with a party of picked men scaled the fort, driving the Rajputs within the inner wall. Later in the same day Malik Ayáz Sultáni, another of Mahmud's captains, passing through a breach in the western wall gained a position that commanded the great gate. An attempt to dislodge Malik Ayáz failed and the besieged in despair, burning their wives and children, divided into two parties, one retiring to the upper fort and the other under command of the chief and his minister remaining below. At dawn the Musalmáns forced open the great gate and cut down the defenders, their leaders falling wounded into the Sultán's hands (17th Nov. 1484). The garrison of the upper fortress soon after surrendered.[1] The bard's stories of Musalmán attempts on Chámpáner tell how Shri Jaysingh Dev the Pátái Rával,[2] once at the time of the nine night, *navrát*, festival went to see the women of his capital dance and sing. Among the women was one of great beauty, and the chief, overcome by the sight of her, caught hold of her robe. But she, for it was the goddess Káli, turning in anger cursed him telling him that his kingdom would soon pass away. Not long after Jáva Lovo, the son of a Chámpáner Bráhman, saw Mahmud the Ahmedabad Sultán ride past Pávágad and, as he rode, look to the hill and clutch his moustache. Hastening to his chief Jáva warned him that the Sultán would soon come against Pávágad. Sending the lad to Ahmedabad to watch the Sultán, Jaysingh made ready to defend his fort strengthening it by five barriers, water, wood, stone, mud, and forest. At Ahmedabad Jáva kept watch. One day he saw the Sultán at his window look across to Pávágad and clutch his moustache. Hastening to Pávágad he told the chief that the Sultán was coming. All was made ready and though backed by 500,000 men and resolute enough to keep up the blockade for twelve years Mahmud was at last forced to make peace without taking the fort. Asking how the Rával was so ready to meet him he was told Jáva's story and raised him to be his minister. This tale may perhaps refer to the attempt and failure of the first Muhammad (1450). Another of the songs tells how in 1485 (1541 S.) the Pátái Rával gave up his life when Muhammad Sháh the Great took Pávágad.

On gaining possession of the hill Mahmud added to the defences both of the upper and lower forts, and for the first time fortified the top plateau making it his citadel, Mauliya or Lord of the Hill.[3] So strong was it that according to the saying of Syed Jalál, if an old

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[1] According to Musalmán historians they surrendered in three days. The Hindu chronicles make out that they stood a blockade of twelve years.—Rás Mála, 287.

[2] The title Pátái Rával is probably only a contraction for Pávápati Rával, the Rával lord of Páva.—Ind. Ant. LXIII. 2.

[3] The use of the name Mauliya is doubtful. In some passages it seems confined to the central peak on whose pinnacle Kali Máta's temple now stands. In other passages it seems to include the whole of the hill top, also known as the *Bála* or high fort.—See Ind. Ant. LXIII. 1-9.

woman were but to hurl a stone from the top of the fort all the men in the world could not carry on the siege. In spite of its strength before fifty years were over the hill was again taken. This time (1535) the besiegers were the Moghals under command of the Emperor Humáyun (1531-1556). Incited by the hope of gaining Sultán Bahádur Sháh's (1526-1536) treasure stored in the fort, and helped by the desertion of Rumi Khán,[1] one of Bahádur's chief engineers, Humáyun pressed the siege, Rája Narsingh Dev and Ikhtiyár Khán holding out gallantly on their sovereign's behalf. Surprised by Humáyun's sudden approach the garrison had been forced to spike and leave half way up the hill an immense gun known as the Bahádur Sháhi.[2] Repairing the gun Rumi Khán directed it against the fortifications, breaking down a gateway with the first and rooting up a great tree close by with the second shot. But among the besieged a European engineer Faring Khán, a Musalmán convert, served his gun with such skill that the shot striking the cannon burst it in pieces. His chief siege gun disabled, Humáyun's efforts to storm the hill failed. Some time after a band of Kolis sent down by the besieged for supplies fell into the hands of the Musalmán outposts. To save his life one of them offered to point out a secret path up the hill. The path was tried and by the help of iron bars driven into it, the rock was scaled and the fortress entered.[3] The garrison taken by surprise were routed, some of them throwing themselves over the walls. Others, among them the commander Ikhtiyár Khán, retired to the citadel or top plateau but on the offer of honourable terms capitulated, August 1535 (7 Safar 942 H.) Very shortly afterwards (1535) on the recovery of his power by Báhádur Sháh, Tárdi Beg the officer in charge for Humáyun in spite of its strength and the abundance of munitions evacuated Pávágad.[4] Eight years later 1543 (950 H.) when Sultán Mahmud II. threw off Darya Khán's control he moved against Pávágad where Darya Khán had left his women and treasure. The young king pressed the siege with vigour and courage, and the garrison making only a half-hearted defence the lower fort was taken. Fatuji the commander retiring to the citadel or top plateau was captured and sent prisoner to Surat. Thirty years later (1573) on the flight of Sháh Mirzá, who had held it for a short time, Pávágad fell into the hands of the Emperor Akbar.

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[1] Unrivalled in his time in preparing fireworks. He was probably the Rumi Khán who cast the Málki Maidán of Bijápur.—Bird, 240.

[2] This gun had been left by the Portuguese after their unsuccessful attempt on Diu in 1531. It was the largest ever seen in India and required a special machine to take it to Chámpáner.—Brigg's Ferishta, IV. 123.

[3] Ferishta gives the following details. Humáyun when he was shown the path up the hill made a number of steel spikes and chose a body of 300 men to arrange the surprise. During the night several false attacks were made on other parts of the fort. The spikes were fixed and thirty-nine officers climbed up, Humáyun himself mounting fortieth. Before sunrise the whole detachment was within the walls when displaying a preconcerted signal his troops attacked the garrison from outside. On this the 300 forced their way to one of the gates and let in the troops. Great wealth was found the accumulation of years from Asia Minor, Tartary and Europe.—Briggs' Ferishta, II. 79. From this Humáyun gave to his officers and soldiers, proportioning the value to the rank and merit of each, as much gold and silver as could be heaped on their shields.—Briggs' Ferishta, II. 80.

[4] Akbarnáma in Elliot's His. of India, VI. 17.

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For about 150 years the fort was held by an Imperial garrison till in 1727 it was surprised by Krishnáji the foster son of Kantáji Kadam Bánde. Krishnáji made Pávágad his head quarters and issuing from it, caused great disorder in Gujarát and made raids into Márwár and as far as Jhálor. He seems to have kept the fort till it was taken by Sindia, probably between 1761 and 1770.[1] Strongly garrisoning it Sindia held Pávágad till in 1803 (17th September) a small British force commanded by Colonel Woodington breached the double wall near a tower at the east corner of the inner fort to the left of the Budhiya Gate and forced the garrison to capitulate.[2] Restored to him in 1804, Pávágad continued with Sindia till in 1853 (August 1st) it was made over to the British Government.

The following details show the present state of its fortifications. The chief objects of interest at the base of the hill are on the lower slopes of the north-east spur the ruins of Rajput Chámpáner, and at the foot of the south cliff caves till lately the dwelling place of Hindu ascetics. About three and a half miles from Hálol leaving the cart road close to the south-west corner of the walls of Musalmán Chámpáner, the hill-path strikes south across a rough wooded stone-strewn tract. The distance from the cart road to Kálka Mátá's temple on the highest peak of the hill is about three miles, two of them up the hill side, the third along the flat hill top.[3] The path, creeping up the eastern spur though rough in places, is nowhere too rugged for a palanquin. After rather less than half a mile the first line of fortifications is entered by the Atak gate, once double but now with its outer gate in ruins. This line of fortification, the historic Lower Fort, is a massive stone wall with strong bastions stretching across the less precipitous parts of the eastern spur. The present wall seems to have been built by Sindia. In 1803 it was passed by the English without opposition.[4] Inside the Atak gate are the ruins of the Medi or Hinna Palace and the Medi or Hinna pond, a deep square pond, its flights of stone steps in ruins but still holding water even in the driest seasons. It was here in 1803 that the English battery was placed.[5] About half a mile further the *Mohoti* or

[1] The date has not been traced. In 1780 Pávágad was in Sindia's hands (Grant Duff, 432). In 1815 a British force seems to have occupied Chámpáner and to have sent an advance party to the Medi pond. Some shots were fired; but no extreme measures seem to have been taken.—Captain Nixon's account of Chámpáner, 1815.

[2] As. An. Reg. 1808, 38. The spelling Budhiya has been given as it is now so written in Gujaráti. The Muhámmadan historians write it Buria. Of the value of the hill top the opinions of military officers seem to differ. Capt. Dunsterville (1824, 12th October) thought like Colonel Woodington that it commanded the main fort. But Capt. Nixon (1815) thought guns on the hill top would be useless as the scarp was so steep that they could never be pointed low enough.

[3] This is Mr. Acworth's (1878) estimate after judging distances on the spot. Mr. Acworth walked from the bottom of the hill to Kálka Mátá's temple in fifty-three minutes. Some of the early accounts, Trans. Bom. Lit. Soc. 140-145 and Bom. Gov. Sel., XXIII., 33 give six miles. But Capt. Nixon (1815) says from the window of the house we stayed in at Chámpáner the sound of a gun fired in the upper fort was heard six seconds after seeing the flash, that is a distance of about 2300 yards. On their first day's firing several of the shot went over the town.

[4] When Capt. Nixon (1815) wrote it was completely in ruins.—Captain Nixon's account of Chámpáner, 12th October 1824.

[5] The battery was placed close to a pond with brushwood to the left. It was near enough to the fort to effect every object.—Col. Kenny, Kaira, 22nd March 1815.

Great Gate gives entrance through the second line of defence. This gateway is a most formidable fortification the path winding in the rock through four gates each commanding the one below it. The lowest of the four is called the *Budhiya* or Spear-but Gate and the highest, about 150 feet above, the *Bhálápul* or Spear-head Gate. Massive walls connect the gates and from the Bhálápul Gate sweep up to the line of fortification that stretches across the crest of the spur. Beyond the Mohoti Gate the path, for about 200 yards, lies over level ground with a high ridge on the left, crowned by a strong wall running back from the Mohoti Gate to the third line of defence. This third line of defence is passed through the Sadan Sháh Gate,[1] a winding passage cut through the solid rock crowned with towering walls and bastions and crossed by a double Hindu gateway, the lower nearly perfect, the upper in ruins. It was to the left of these strong gates that in 1803 the walls were breached. From the battery on the Medi pond the wall was broken down in two places. The breach in the outer wall in a tower to the left of the Budhiya Gate was nearly complete and that in the inner wall to the left of the Bhálápul Gate was complete.[2] The breach in the outer wall has been repaired; that in the inner wall is still easily seen.[3]

The chief remains on the hill lie within the Sadan Sháh gateway. From the gate a path leads off the main road 100 yards to the right, to the head of a ravine that ends in a cliff several hundred feet deep. Near the edge surrounded by a strong round stone wall with one narrow opening is a small cruciform cut-stone chamber completely shut in. Through chinks in the wall a grave is seen where according to local story a Rajput princess was buried alive. Beyond this tomb on the edge of the cliff are the remains of a Sát Mehel or seven-storied Palace.[4] Of the seven stories four were above ground and three cut one below the other in the face of the cliff. The four upper stories are in ruins. But down the face of the cliff, commanding a wide view across a deep valley, runs a covered stone staircase and inside of the staircase, one below the other, three chambers each about twenty feet square, with three pillars on each side, the roof domed, and the cornice slightly ornamented. The lowest chamber hangs over the cliff at a point where two scarps meet at right angles. Beyond the deep valley to the west of the Sát Mehel, a spur stretches north falling to the plain in steep terraces just above Shakar Khán's lake. Across this ridge runs an old wall and other remains of fortifications known as the Julan Budan gates. Above them on an outstanding point of the same spur are two more buildings, the *Núgar Haveli* or Núgar Bráhman's Palace. It was along

[1] This is the same Sadan Sháh whose shrine is on the spire of Kálka Máta's temple.
[2] As. An. Reg. 1803, 38; Col. Kenny, Kaira, 22nd March 1815.
[3] Mr. Acworth, 21st March 1879.
[4] This building is also called the Chámpávati or Chámpa Ránina and the Kavera Jahverina mehel. It is said to have been the palace of a favourite queen. Major Watson thinks it was meant for the ladies of the *zenána* to see hunts from.—Ind. Ant. LXIII. Mr. Acworth adds; it is said to have been built by two brothers-in-law of one of the Pátái Rávals, robbers who had an underground passage from the Sadan Sháh gate to the Khund river at Medápur in Hálol. Both near the Sadan Sháh gate and at Medápur the openings of a passage may still be seen.

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this spur that in 1803, when the walls were breached, the bulk of the garrison escaped.[1]

Returning to the main track, about 100 yards above the Sadansha gate is, on the left, the *Máchi Haveli* or Terrace Palace, a wooden building where Sindia's commandant used to live, and where a small police party is now posted. Close by, on the right, are the ruins of a fine stone building the old Máchi Haveli. Further on is a pond with at one end the ruins of a brick mosque and near it the Panch Kuva or Five wells, four of them ruined the fifth in good order yielding excellent water. About a quarter of a mile above the Máchi Haveli is the *Makái Kothárka Darvája*, or the Maize Store Gate, with strong defences on either side overlooking the approach. Inside of the gate on the left are three large domes the *Makái Kothárs* or maize granaries and on the level top of the south-east spur, scarped by rocks at least 1000 feet high and joined to the hill only by a narrow neck, are a ruined gateway, old buildings, and a line of wall enclosing several covered reservoirs. These are the ruins of the palace of Jaysingh Dev the last of the Pátái[2] Rávals (1484). At the end of the spur is a small shrine of *Bhadra* or the propitious Káli.

This plateau and the hill side as far down as the Budhiya Gate, 'a pleasant place with springs, ponds and green trees' formed the upper fort taken by Mahmud Begada in 1484.[3] The top plateau, some 1500 feet higher, was at that time unfortified or protected only by a single gate. Except that gate the defences were originally built by Mahmud Begada's engineers who, fortifying its approaches with the greatest skill, made the upper plateau their citadel naming it Mauliya or Lord of the hill. For a quarter of a mile above the Makái Kothárka Darvája the ascent is very steep, then comes a moat or deep-cut cleft called from the moveable beams laid across it the *Pátiápul* or Plank Gate. After about a quarter of a mile the foot of the scarp of the upper plateau is reached. Along its foot for nearly 400 yards the path zigzags to the *Túra* or Star Gate. Then steps cut in the rock mount the scarp for about 100 yards and lead to a square building on the edge of the cliff. This building with two gates, the *Suraj* or Sun Gate in front and the *Nagár Khána* or Drum Gate behind, originally built by Mahmud Begada's engineers, was with all other works above the Pátia chasm destroyed by the English in 1803 and afterwards built by H. H. Sindia.[4] The outer gate contains stones taken from Jain temples and the inner gate is in form a fine Musalmán arch. On either side of the Nagár Khána entrance the edge of the upper plateau is topped by a fifteen feet wall, and on all other parts its natural defence, a sheer cliff over 200 feet high, needs no artificial help.

Within the Nagár Khána Gate, is the Musalmán citadel or Mauliya, an irregular oblong plateau about a mile from north to south and a quarter of a mile from east to west. Much of it is uneven without

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[1] Capt. Kenny, 15th March 1815.

[2] The name Pátái Rával is probably a contraction from Pávápati Rával, that is the Rával who rules at Páva.—Ind. Ant. LXIII. 2.

[3] Mirat-i-Ahmadi (1750) quoted in Ind. Ant. LXIII. 7.

[4] Col. Kenny, Kaira, 22nd March 1815.

tillage, with but few trees and covered with large basalt boulders. The chief object of interest is at the south rising from a cluster of Banian trees and prickly pear and carinda bushes a rocky peak about 250 feet high. At its foot is a small reservoir and up its side runs a flight of 226 steps said to have been built about a hundred years ago by Mahádáji Sindia. At the top is the temple of Kálka Mátá with, in its chief shrine, three images, Kálka Mátá in the centre, Máha Káli on her right, and Bechara Máta on her left. Except for its rich marble floor, presented about twenty years ago by the minister of Limbdi in Káthiáwár, the temple probably about 150 years old is small and plain. On its spire is the shrine of Sadan Pir a Musalmán saint, still held in respect.[1] Kálka Mátá's chief worshippers are Kolis and Bhils. But especially on the full moon of *Chaitra*, April, and at *Dasara*, October, there are large meetings of Hindus of all classes. Coming down Kálka Mátá's peak and turning to the west of the plateau, the path skirting the edge passes along the brink of precipices scarped in many places right down to the plain. On the west side of the hill are seven massive brick and mortar Musalmán domes called the *Nav Lákh Kothárs* or Nine Lac Granaries each of them a room about twenty-one feet square. Along the north over rough uneven ground are remains of ponds and reservoirs, and on the east, when the circle of the plateau is completed, some small but finely carved Jain temples.

The railway has reduced its value as a sanitarium. But for Europeans stationed in the Panch Mahás and Baroda, Pávágad is during the hot season a most refreshing change from the plains. The hill top is well supplied with water from a spring about half way down near the line of the lower fort. During the hot season of 1839 with the temperature at 105° in Baroda, in the granaries on the top of Pávágad the thermometer on the warmest day did not rise above 87° and on other days was not more than 83°. In the open air the readings somewhat less carefully taken, shewed an extreme maximum of 97° and an average maximum of 94°. During the whole time a constant breeze blew from the south-west.[2]

Rivers.

Both the eastern and western divisions drain into the Mahi. In Godhra and Kálol the streams flow west falling directly into it. In Jhálod and Dohad the slope is north-east, the water draining into the Anás one of the Mahi's tributaries. The district is well supplied with water from ponds and streams. The Mahi the only

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[1] Káliká's shrine is mentioned as a place of pilgrimage under the Anhilváda kings, Rás Mála 189; her worship is referred to in an inscription dated 1469. The present temple would seem to be of later date built probably after the capture of the hill by Kántáji Kadam (1727). The author of the Mirat-i-Ahmadi (1746-1763) mentions the temple of Kálka Bhaváni and the shrine of Sadan Sháh on its top. The end of the temple spire seems to have been removed to make room for the shrine probably to conciliate Muhammadan feeling and protect the rest of the temple.—Ind. Ant. LXIII. 7. Mr. Acworth says that the Hindus claim Sadan as a Hindu declaring that to save their temple, the Bráhmans gave out he was a Musalmán.

[2] As a sanitarium the only drawback to Pávágad is that in the hot weather the wind blows so fiercely that unless of very great strength nothing but a domed roof can stand. Their domes repaired, their verandahs renewed and outhouses built, the nine lac granaries would at a cost of about £570 form excellent quarters for two European families.

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large river forms, for eighteen miles, the west boundary of the Godra sub-division. During this part of its course the Mahi, with in the hot season a stream two feet deep and about fifty yards wide flows between sloping alluvial banks seldom more than twenty feet high. On account of the broken ground along its banks its water is seldom used for irrigation. In Godhra the Pánam on its way north to the Mahi, passing through the east of the sub-division, is a very considerable stream, at times during the rains most difficult to cross. In Kálol the Karad passing west to the Mahi between banks from forty to fifty feet high, at all times with a running stream and many deep wide pools, is unfordable during the rains. About two miles from Kálol it is spanned by a three-arched bridge, each arch seventy-six feet wide. Of minor streams that cease to flow in the hot weather the Kun through the centre of Godhra, the Mesri to the south of Godhra town, and the Goma close by the town of Kálol rise in the highlands west of the Pánam valley and after courses of not more than fifty miles fall into the Mahi. The Vishvámitri taking its rise from Pávágad passes south by Baroda city to join the Dhádhar. The Devnadi from the Báriya hills, also an affluent of the Dhádhar, passes twenty miles south through Hálol. In the east the only river of any size is the Anás. This rising in Málwa runs north over a rocky bed along the east of Dohad and Jhálod and falls into the Mahi at the extreme north-east corner of the district. A considerable stream during the rains, in the hot season it ceases to flow, dwindling into a row of pools. Dohad and Jhálod are better supplied with streams which hold water throughout the year and are readily available for water-lift irrigation as in many places their banks overhang. Of minor streams, all with rocky beds, are the Damaj on which Dohad stands, the Khan, Kali, Gangári, Kanari, Barod, and the Machan on which Jhálod stands.

Ponds.

The west is well supplied with ponds and reservoirs, five of them in Godhra and one in Kálol of special size. Of the Godhra reservoirs that at the town of Godhra has an area of seventy acres. On the Dohad road about twelve miles east of Godhra is the Orváda lake covering 110 acres and said never to have been dry and to have a pillar in the middle visible only in seasons of extreme drought. The third, 120 acres in area, is at Shera about twelve miles north of Godhra, and the fourth, eighty-seven acres, is at Kamláv. At Maláv about five miles east of Kálol, covering 133 acres, is an embanked and masonry built reservoir provided with sluices, and watering a large stretch of rice land. In the east the hills and valleys of Dohad and Jhálod are well suited for storing water. They contain many ponds, most of them natural but some of them banked and masonry built. During the hot season the smaller ponds are dry but some of the larger hold water throughout the year. The Chhába lake at Dohad, one of the largest, has strong masonry walls, flights of stone steps at two ends, and a masonry outlet for waste water.

Geology.

Except in its south-west corner, no detailed inquiry into the geology of the Panch Mahals has been made. In the eastern division though black and clay soils occur, the surface is chiefly a somewhat shallow light-red soil much mixed with gravel. The rocks are

trap, schist, limestone, millstone, grit and marble in small quantities.[1] In the western division near Godhra all the surface rocks are metamorphic, and in other places metamorphic rocks alternate with beds of quartzite sandstone. The geological survey of the south-west of the district shows two chief geological features, the great trap rock of Pávágad and a group of semi-metamorphic beds chiefly quartzite or quartzite sandstone. Pávágad is believed to be the remains of a range of trap that stretched south to the Rájpipla hills. It is not easy to understand how except by the force of the sea the whole large intervening tract can have been cleared of trap. A very slight change of land and sea level would flood the plain country round Pávágad, and it is possible that at one time the hill was an island. Unlike those to the south-east, the Pávágad traps lie perfectly flat. Their mineral character is in many parts peculiar. Of the numerous terraces below the upper flat of the hill, some are ordinary basaltic lava flows. But many are of a light purple clay rock rare in other places. Somewhat cherty in appearance and generally with small crystals of glassy felspar this rock is sometimes mottled purple and grey. It is almost always distinctly marked by planes of lamination parallel to the stratification sometimes so finely as to be more like an ordinary shale than a volcanic rock. In spite of this these beds seem at times to pass into basaltic trap, and one form of basalt with crystals of glassy felspar has weathered edges much like this purplish shaley rock. The formation of these beds is not easy to explain. They often look like volcanic ash. And, though their highly laminated structure seems due to deposition in water it is in places irregular and the beds containing pumice could hardly occur in under-water formations. They may be flows of very thin volcanic mud or their present character may in part at least be due to changes after consolidation. Similar beds are very rare among traps and no other instance of their development on so large a scale has been observed in Western India.[2]

The other chief feature of the geology of the south-west corner of the district, the group of quartzite sandstone beds, has been traced for about twenty miles east of Pávágad and for seven or eight miles south of Chámpáner. The other beds are mostly slates, conglomerates and limestones, ferruginous bands occasionally occurring. Some of the limestones are highly crystalline; in one place near Kadvál they were found to contain actinolite; in other places, as near Surajpur they were quite unaltered. All the rocks susceptible of cleavage are highly cleaved, the planes in general striking about west 10°-20° north. Some of the slate appears so fissile that it might probably be used for roofing. The conglomerates are perhaps the most distinctive beds in the group. They are well seen about Jhabán on the road between Surajpur and Jámbughoda. The matrix is in general a coarse gritty sandstone containing pebbles and boulders often one and sometimes three feet in diameter of

[1] It is believed to be mainly composed of metamorphic rocks with a few trap outliers.—Mem. Geo. Sur. VI. 3, 30.
[2] Mr. Blandford. Mem. Geo. Sur. VI. 3, 181-182.

Chapter I. Description. Geology.

granite, quartzite, talcose slate, and crystalline limestone. The talcose slate, of which some of the pebbles are composed, is scarcely more metamorphosed than the Chámpáner beds themselves. The quartzite boulders are the largest. The limestone pebbles are very numerous and as they are dissolved on the surface by exposure to the weather, the hollows which contained them remain empty, and give a peculiar vesicular appearance to the rock. Some of the limestones of the pebbles contain silicious laminæ. Cleavage is frequently apparent in these pebbles, though it is but rarely distinguishable in the sandy matrix. At one place near A'nandpur the matrix of the conglomerate appeared to be a perfect breccia, a mixture of angular fragments of black slatey silicious rock and coarse sandstone, both containing pebbles. This was near the junction of conglomerate with slatey beds, the latter apparently the newer. The rocks appear to have been much crushed. They look as if angular fragments of slate had become mixed with sandstone, and then all reconsolidated. But the granite and quartzite pebbles show no signs of violence. Very little can be ascertained of the sequence of the beds. The slate, limestones, and quartzites of Surajpur are evidently high in the series; they appear to rest upon the conglomerates of Jhabán and these again upon the quartzites of Nárukot and Dándiápura. Judging from the extent of alteration the Surajpur beds are high in the group. But no base is seen, unless the quartzites of the southern patch rest upon granite about Manikpur. These quartzites much resemble those of Nárukot. It is often almost impossible to fix where the Chámpáner beds pass into metamorphics. Within the tract occupied by the metamorphic rocks, quartzites which have in no way the appearance of outliers occur in several places, as near Mirvánia, and again west of Jámbughoda. In the latter case a true conglomerate containing large rolled pebbles of quartzite is found amongst the metamorphic rocks. The same apparent passage occurs south of Surajpur, the Chámpáner beds being more crystalline near the boundary. Faults may to a great extent account for these passages, and when rocks do not differ greatly in mineral composition apparent cases of transition are very likely to occur. Still both along and across the line of strike there is, in places, an apparent gradual change from Chámpáner beds into metamorphics.

South of the belt of hills near Kadvál, and around Jámbughoda nearly all the surface is composed of granite, passing occasionally into granitoid gneiss. North-west and west of this plain, the hills of Nárukot and Dándiápura consist of the quartzite and conglomerate of the Chámpáner group. South-west of Jámbughoda the rocks, although somewhat similar in composition, are more highly metamorphosed, the bedding, in places, as near Pepia being obliterated. In Másábár hill near Pepia, a spur running to the east consists of very quartzose gneiss, containing large rounded masses of quartz and other rocks. It is evidently a metamorphosed conglomerate, and a rock of precisely similar constitution though unaltered abounds in the Chámpáner beds.

Some good exposures of the Chámpáner beds are seen on the road from Jámbughoda to Surajpur. The range of hills north of the

road, at the extremity of which is Nárukot, is formed of a fine granular quartzite sandstone, vertical or dipping at a very high angle to the southward. Similar rocks form the hills to the north near Dándiápura and indeed the latter have much the appearance of being composed of the same great bed, which rolls over to the north of the Nárukot range and then appears to turn up again.

South of Nárukot granite and gneiss occur in the valley, and in the hills to the south, but at A'nandpur slates and conglomerates come in, vertical or dipping south, and apparently resting upon the quartzites of the Nárukot range. They are probably faulted against the gneiss. The slates are in places well cleaned and fine grained and might yield good roofing slate.[1]

Hot Springs.

At Tuva, about ten miles west of Godhra, hot springs rise to the surface in two places, the one in a river-bed, the other in a marsh. The river-bed spring, unknown and never resorted to, is found only by removing some of the surface sand. The other springs, varying in temperature and giving off gas, well up through large earthen jars let into the soil over about an acre of marshy forest-cleared land. The water is sacred to Mahádev and the place studded with palm trees, is adorned by a temple. On the morning of Phágan Sud 11 (March) especially since the opening of the Dákor railway this place is much frequented by pilgrims.

Climate.

Except that in the eastern division the rains are somewhat later of beginning, the seasons are the same over the whole district; cold from November to February; hot from March to the middle of June, and rainy from the middle of June to the end of September. The prevailing winds are in Godhra from October to March east and north-east, from April to June west, and from July to September south-west, and in Dohad from October to December east and south-west, and from January to September south-west. Records of rainfall are available for two stations, Godhra in the west for twelve years (1867-1878) and Dohad in the east for seventeen years (1862-1878). From the following table it will be seen that during the twelve years ending 1878, Godhra had the highest average with 44·45 inches. The greatest fall in any one year was in Godhra 64·05 inches in 1878 and in Dohad 47·34 inches in 1878.

Panch Mahál Rainfall, 1862-1878.

Year.	Godhra.		Dohad.		Year.	Godhra.		Dohad.	
	Inches.	Cents.	Inches.	Cents.		Inches.	Cents.	Inches.	Cents
1862	...	...	30	62	1871	44	85	34	90
1863	...	...	26	11	1872	48	49	21	84
1864	...	...	24	85	1873	32	36	23	69
1865	...	...	25	42	1874	45	74	27	36
1866	...	...	34	50	1875	46	34	29	70
1867	35	15	23	18	1876	49	54	38	33
1868	41	71	27	68	1877	20	6	17	80
1869	59	70	26	55	1878	64	5	47	34
1870	46	59	36	33					

[1] Mem. Geo. Sur. VI. 3, 41, 178, 218.

Chapter I. Description. Temperature.

Thermometer readings are registered at Godhra and Dohad. A comparison of the returns during the eight years ending 1878 shows an average temperature at Dohad on the whole slightly below that of Godhra, the figures being 80·57 and 78·74 respectively. The following statement would seem to show that, though the temperature is slightly lower at Dohad at all times of the year, the difference between the two stations is most marked during the hot months April, May, and June.

Panch Mahâls Temperature, 1871-1877.

Year.		Seasons.							
		January to March.		April to June.		July to September.		October to December.	
		Godhra.	Dohad.	Godhra.	Dohad.	Godhra.	Dohad.	Godhra.	Dohad.
1871...	Mean	73·3	75·1	91·6	81·1	82·0	76·1	73·0	76·5
	Daily range	32·0	33·6	15·0	34·0	4·3	22·3	22·6	24·0
1872...	Mean	70·0	73·2	90·18	88·2	81·7	75·4	74·3	73·6
	Daily range	9 6	34·6	10·5	28·0	6·3	12·0	10·3	26·3
1873...	Mean	75·9	72·1	91·02	69 6	81·28	78·9	75·2	72·7
	Daily range	14·4	30·0	13·9	25 0	11·45	13·0	27·4	28·0
1874...	Mean	72·3	72·5	89·18	87·5	79·5	79·8	73·3	78·0
	Daily range	26·6	34·0	18·0	26·0	11·2	15·7	23·4	33·3
1875...	Mean	78·8	72·7	91·4	90·2	81·9	78·3	79·5	74·8
	Daily range	24·3	36·3	16·9	23·3	10·6	15·3	24·3	24.7
1876...	Mean	78 8	72 9	87·95	89·0	82·7	79·8	76·9	74·3
	Daily range	30·03	34·0	29·3	23·0	13·8	14·7	31·2	27·7
1877...	Mean	73·56	71·8	88·15	88·5	85·28	84·7	78·07	79·9
	Daily range	32·20	33·0	23 46	23·0	6·44	14·7	10·44	26·23
1878...	Mean	74·81	77·6	90·64	94·8	82·12	82·6	74·37	77·8
	Daily range	14·54	34·0	14·41	18·7	6·22	12·7	13·94	22·0

Healthiness.

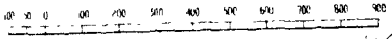
In healthiness the climate varies greatly. The well tilled parts Kálol in the west and Dohad in the east, would seem to be free from any special form of sickness and to be healthy to newcomers as well as to the people of the place. Godhra surrounded by large areas of forest and waste, though for residents fairly healthy is rather a trying climate for strangers. The hot and rainy seasons weaken Europeans, and the cutting malarious winds and hot sun of the cold months are, to natives from other districts, apt to bring on fevers of a dangerous type. The commonest forms of sickness are ague, dysentery, diarrœah, bronchitis, asthma, guinea worm and skin-disease.

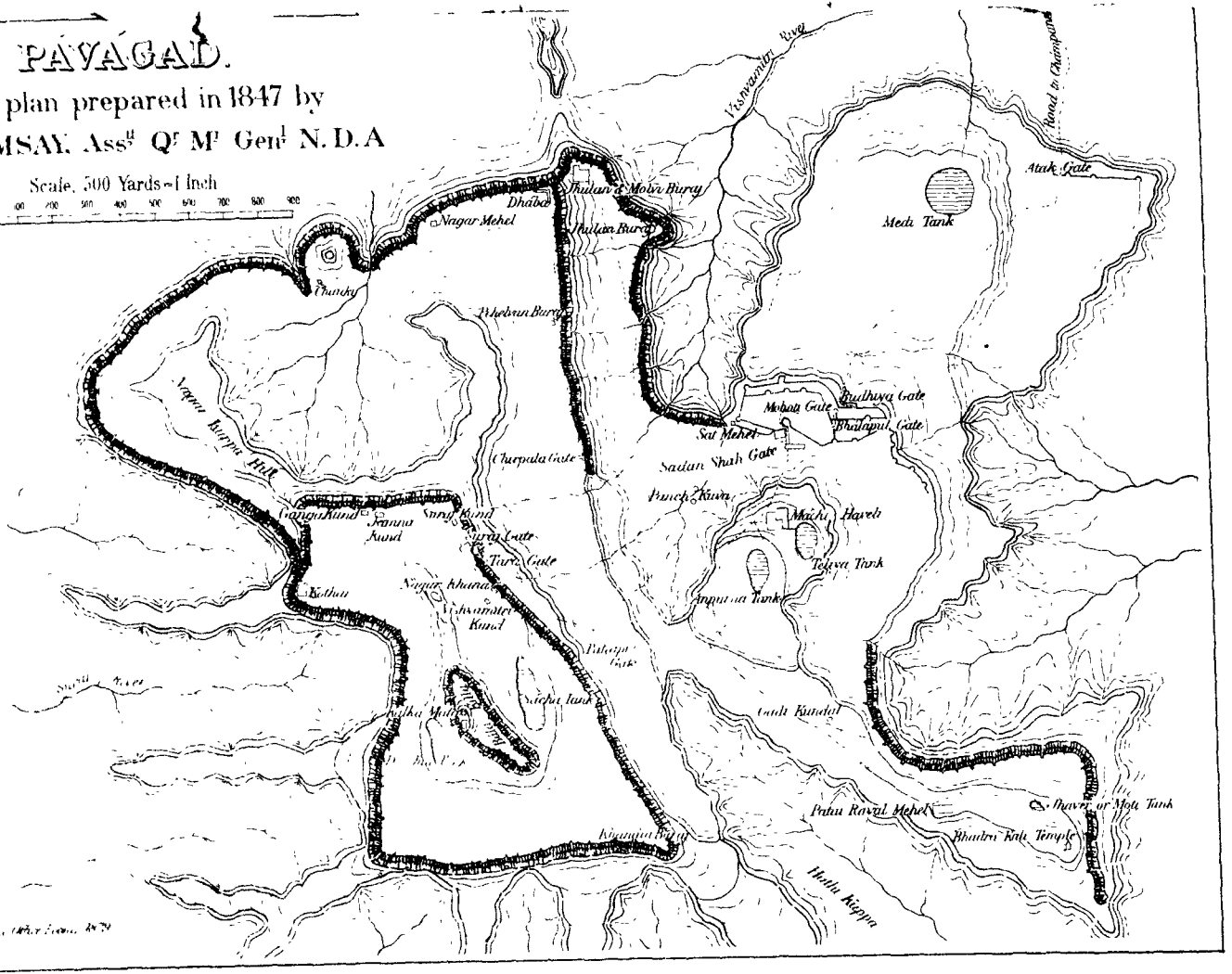
PAVAGAD.

From a plan prepared in 1847 by

Capt[n] J. RAMSAY, Ass[t] Q[r] M[r] Gen[l] N. D. A

Scale, 500 Yards = 1 Inch





CHAPTER II.

PRODUCTION.

MINERALS.

COMPARED with other Gujarát districts the Panch Mahál are rich in minerals. Its hills contain iron, lead and talc, and only the cost of carriage prevents the use of its stores of building stone. Iron ore of considerable richness is found in the Godhra village of Pálanpur, and near Jámbughoda and Sivrájpur in Nárukot. Both in the Panch Mahál and Nárukot, though unused for years, traces of old iron-smelting works remain.[1] Lead ore is found in Nárukot, near the iron ore, and at the Khandeláv lake two or three miles from Godhra. In 1872 a specimen of the Nárukot lead ore was examined by the Government Chemical Analyser. It was reported to be a mass of nearly pure lead with a flinty covering. The lead was a definite chemical compound with 86·6 per cent of metal. It was poor in silver yielding only five ounces to the ton of lead. Two years later (April 1874) a larger collection of specimens gave an average of 58·91 per cent of metallic lead and very nearly the former small proportion of silver. These results the Superintendent of the Geological Survey thought unpromising, and no attempt has since been made to work the Panch Mahál lead mines.[2] Talc is found near some of the Nárukot hills. But the plates are too small to have any commercial value. Of stones, sandstone, trap, quartz, coarse granite, basalt, limestone and lime gravel, *kankar*, are found in many parts of the district. Mr. Little, the District Executive Engineer, with the view of starting by the lately opened (1876) Páli railway an export of building materials to Ahmedabad, Baroda, and Broach, has made the following calculations of the cost of the chief varieties of stone. A very useful stone for paving and building from two to three feet square and from one to three inches thick quarried at Bágarváda, three miles from Jhálod, costs at the Páli railway station, according to thickness, from £1 10*s*. to £3 (Rs. 15 - Rs. 30) per 100 superficial feet. The same stone would cost at Baroda from £1 12*s*. to £3 8*s*. (Rs. 16 - Rs. 34), at Ahmedabad from £1 14*s*. to £3 12*s*. (Rs. 17 - Rs. 36), and at Broach from £1 16*s*. to £3 16*s*. (Rs. 18-Rs. 38). Another useful sandstone has lately been found in the Mahi river, about two miles from the Páli railway station. Limestone, with about ninety per cent of lime, is found at Dohad, and an inferior sort near Jámbughoda. A better placed limestone is about four miles from the Páli railway station. This has been burnt and gives very good lime, not hydraulic, but well suited for ordinary building

[1] Bom. Gov. Sel. XXIII. 100-105 and 113,114.
[2] Bom. Gov. Res. 3877, 8th July 1874.

Chapter II. Production.

purposes. Some specimens mixed with sand and pounded brick and subjected to strain gave the following results. A sample of six parts, two of lime, three of sand and one of pounded brick, broke at a strain of 52·15 pounds to the superficial inch; a sample of three equal parts of lime, sand and pounded brick, stood 60·93 pounds; and a sample of four parts, two of lime and one each of sand and pounded brick, stood 71·34 pounds. The cost of wood fuel at the quarries is about 7*s.* (Rs. 3-8) a ton, and the cost of the lime about 14*s.* 6*d.* (Rs. 7-4) a ton. It could be delivered at Baroda at about £1 1*s.* (Rs. 10-8) and at Ahmedabad at about £1 2*s.* (Rs. 11) a ton. The quality of the lime is said to be strongly in its favour. The common Godhra granite, found about nine miles from the Páli railway station, is a fine lasting stone. At the same time it is costly to work and is not likely to be used to any large extent. Plenty of fine black close-grained basalt is found near Pávágad hill. But this, dear to work and far to bring, is not for many years likely to be in demand. Stone well suited for road metal is found within less than a mile of the Páli station. Lying in slabs and boulders it wants no blasting. The present cost of digging and breaking to pass through a ring 2½ inches in diameter is 4*s.* 6*d.* (Rs. 2-4) or adding tools 5*s.* (Rs. 2-8) the 100 cubic feet. At a mile rate of ¾*d.* (6 p.) this would give a cost per ton of £1 1*s.* 3*d.* (Rs. 10-10-0) at Baroda, £1 5*s.* 9*d.* (Rs. 12-14-0) at Ahmedabad, and £1 12*s.* 3*d.* (Rs. 16-2-0) at Broach. Sand is found in nearly all the rivers.[1]

Field Trees.

The east is rather bare of trees, but in other parts the Panch Mahals are well wooded.[2] In the more highly tilled western districts, are rich well-grown rows of field trees, and large tracts in the centre are woodland and forest. The trees that give the cultivated lands in the west a rich park-like appearance are the mango, mahuda, tamarind, ráyan, and banian. Of these the *mahuda,* Bassia latifolia, with its strongly veined leaves and its heavy sickly smelling flowers is in every respect a noble tree, and of great value to the district. For some months in the year its flower and fruit are meat and drink to many of the poorer classes, and its timber is of excellent quality. The mango and tamarind do not differ from the same trees elsewhere. The *ráyan* or *khirni,* Mimusops indica, a poor scrubby tree in the Konkan and not known in the Deccan, grows here in the greatest beauty. For so large a tree the leaves are small. They are of a deep green, and so close together, that for shade there is no tree like the *ráyan.* In form it is compact and well rounded, and very often grows in remarkably pretty clusters. Neither flower nor fruit is at all conspicuous. The fruit is of the greatest value, forming for Kolis and other poor classes the chief article of food during the hot weather months. Its tough wood serves as cartwheels and oil mills. But from its importance as a fruit-bearing tree the timber is seldom used. The *vad,* Ficus

1 Contributed by T. D. Little Esquire, Executive Engineer.

2 These notes on the Panch Mahals trees, shrubs, and plants are by Mr. Nairne, lately of the Bombay Civil Service. They are incomplete, as Mr. Nairne was not in the eastern parts of the district, and did not pass a rainy season in the Panch Mahals. Mr. Nairne's notes on field and forest trees have been supplemented by contributions from Captain Macrae, Conservator of Forests, and Mr. Wilson, C. S.

bengalensis, does not differ from the same tree elsewhere. Other common members of the fig family are the *pipri*, Ficus tsiela, the *umbar* or *gular*, Ficus glomerata, with clusters of red fig-like fruit, eaten by Bhils and Kolis, and the *pipal*, Ficus religiosa. In the Kálol sub-division rows of palmyra trees, Borassus flabelliformis, many of them encircled by a *pipri* at once attract notice.

Forest Trees.

Except the *mahuda* none of those mentioned above can be called forest trees. Of the Panch Mahál forest trees, besides the *mahuda*, the most abundant are the teak and the *khákhra*. Teak, *ság*, Tectona grandis, remarkable nearly all the year for the grand size of its leaves, is very plentiful, but except in the sacred village groves or *málvan*, is of no great size. Its wood is used chiefly for rafters and small beams. The *khákhra*, Butea frondosa, like the teak of no great size, is remarkable at the beginning of the hot weather for its gorgeous masses of flowers. A waving well wooded country, set thick with bright scarlet-flowering apple trees, gives some idea of many a Panch Mahál landscape when the *khákhra* is in bloom. In habit of growth it is not unlike the apple tree, and the leaves dropping when the flowers come, the top and outer branches stand out sprays of unbroken scarlet. In the bud the dark olive green velvet of the calyx is scarcely less beautiful than the full flower. The gum of the *khákhra* is gathered by Náikdás, its roots made into ropes, and its wood used as fuel. *Sisu*, Dalbergia latifolia, neither plentiful nor large, is found in Hálol, Dohad, and Jhálod. The *tanas*, Ougeinia dalbergioides, with its much prized wood, is not common. The *sádar* or *ayan*, Terminalia arjuna, is pretty plentiful, but as all the big trees were cut before the forests were closed, it is of small size. The *bibla*, Pterocarpes marsupium, though less destroyed than the *sádar*, is by Chárans and other professional herdsmen often cut that cattle may feed on its leaves. It yields very fine timber. The *moka*, Schrebera swietenioides, is a common and large growing tree. Its white close-grained wood is much used by turners and for cartwheels. The *kasumb*, Schleichera trijuga, with small white flowers in February and March, is very rare. Its fruit is eaten and made into oil. Its hard wood is so much prized for cart-axles and field tools that all trees of any size have been cut. *Rohen*, Soymida febrifuga, a large and common tree, has timber too heavy for general use. *Dhávda*, Anogeissus latifolia, is very plentiful. Though it does not rank as a timber tree, it makes excellent fuel, and is used for ploughs. *Charoli*, Buchanania latifolia, with broad oval leaves, small greenish white flowers, and a very hard nut, is not very common. Its fruit is eaten, and the oily kernel of the nut is much used in sweetmeats. The *bida*, Terminalia belerica, is one of the commonest and largest growing of Panch Mahál trees. Its small oblong egg-shaped fruit the beleric myrobolam is used in tanning. The *gugal*, Boswellia serata, is a common, and, though not very large, a very beautiful tree. Its narrow pointed leaflets and drooping branches give it something the look of the English garden acacia. Its grey flakey bark is noticeable. It yields a cheap resin, and, besides for fuel, its wood is used in making platters. With it grows the Canarium

Chapter II. Production. Forest Trees.

strictum, also called *gugal,* rather stouter, without the papery bark or the elegance of branch and leaf. The *pasi,* Dalbergia paniculata, is a well-grown and handsome tree with thick dark grey bark and dense foliage. The flowers are small, in large clusters, white tinged with blue. Its wood is used only for fuel. The last three are bare in February and March. The graceful *nim,* Melia indica, is well known, and besides near villages is sometimes found in the forests. It is seldom used as timber. Two trees of the orange family, and one of a family closely allied, may be noticed together. The *kautha* or wood-apple, the *bel* and the *hinger.* The *hinger,* Balanites roxburghii, is the commonest and the least handsome. It grows everywhere, and is often little more than a thorny bush. It yields an oil, and its nut is hollowed and made into crackers. The *bel,* Aegle marmelos, is a better though not very noticeable tree. Its wood is used for oil mills. The wood-apple, *kautha,* Feronia elephantum, when well grown, with its crowd of small leaflets and graceful drooping branches, is particularly beautiful. The fruit is eaten raw, preserved, and used medicinally, but is too common to have any sale value. The *bával,* Acacia arabica, except where planted by roadsides, is seldom found. The commonest acacia seems to be the *anjar,* Acacia tomentosa, known by its soft hairy-shaped pods. The *bava,* Cassia fistula, whose lovely laburnum-like flower clusters are well known in the Konkan and other forests, is also not uncommon. The *doli* or white *saras,* Albizzia lebbek, and the *shembar,* Albizzia stipulata, are also fairly common. The first with large white flowers and many protruding stamens has no particular beauty; the latter has flowers of the same size or larger, and of a beautiful pink. The pods of both are large and exceedingly thin, and the leaves doubly sub-divided. The *káli* or black *saras,* Albizzia odoratissima, is remarkable for its apricot-scented green-worsted-like flower-tassels. Its wood is used for cart wheels. The *kher,* Acacia catechu, is plentiful, but, from want of preservation, does not grow large. Much of it is used in making charcoal. The other leguminous trees are the *samra,* Prosopis spicigera, well described as a mange-struck *bával* tree, and the *karanj,* Pongamia glabra, found chiefly on the banks of streams. Though not so handsome as in the Konkan, the foliage of the *karanj* is thick and polished, and it bears clusters of half-open pale lilac flowers, and flat nearly oval pods. The seeds yield an oil useful in itch. Other trees deserving mention are the *bor,* Zizyphus jujuba, known every where, but of no beauty, the fruit used as a pickle and conserve; the *aduso,* Ailanthus excelsa, a large tree with very rectilinear branches rather sparingly clothed with very large much divided leaves; and the silk cotton trees *shimal,* or *shimar,* Bombax malabaricum, and *shamla,* Eriodendron anfractuosum, similar in appearance but differing in flower, those of the first a dull crimson and those of the second a dirty white. The leaves of about five oval pointed leaflets palmately disposed fall when the flowers come. Besides being used for firewood, the trunk is hollowed into canoes, troughs, and water conduits. The *kari,* Sterculia urens, of the same family, is, in the cold weather, one of the quaintest of trees with its

smooth deadly pale bark picked out with pink patches and its leafless branches with at the tips clusters of small yellowish brown flowers. The unripe fruit is like a crimson velvet star-fish. Three of the Apocynacœ are much like each other. The *kara*, Wrightea tinctoria, with handsome clusters of white jasmine-scented flowers and long thin seed vessels hanging down in pairs, and often joining at the ends. A second, name unknown, like the *kara* in fruit, is of a different habit of growth, the leaves only half as long, broader and downy, the flower more delicate than the *kara* blossom with a peculiar spicy scent but without the long tube to the corolla. The third, Wrightea tomentosa, has leaves as large as the first, but downy, and the double seed vessels, instead of being smaller than a quill, are as thick as a walking cane, and dotted with roughish specks. The wood is used for turning. For these two last no more definite local name is known than *dudhia*, a word applied to all trees with milk-like juice. The *sareru*, Streblus asper, is a very common tree in hedges and about villages. It is small and scraggy with a gnarled trunk not unlike an English thorn tree. The *andrak*, a less common and larger growing tree, is in February covered with small round heads of yellowish flowers. It yields a fine white wood, and when cut throws from the stool several straight saplings. The *kadam*, Stephegyne parvifolia, except when covered with round heads of fragrant flowers, is an unnoticeable tree. In the forests it grows to a large size, and yields good timber. The *kalam* or *nhiv*, Anthocephalus cadamba, grows to be a magnificent tree. Its large leaves are heart-shaped, and its sweet-scented balls of yellow flowers are as large as small oranges. The wood is light yellow. It is not the same as the *kalam* used in gun factories. The *váola*, Phyllanthus emblica, has oblong leaves arranged in pairs with much regularity and grace. Its fruit, growing among the leaves and very like a slightly grooved green gooseberry, is sometimes eaten raw, but oftener pickled or taken as a medicine. The *tamraj* or *timburni*, Diospyros melanoxylon, a common tree of little beauty, has leaves and young shoots more or less rusty or downy. Its flowers are white and inconspicuous, and it bears a fruit about the size of a plum. The *timra*, Diospyros montana, common only in the Pávágad woods, is much like the *tamraj*, except that its fruit is of the size of an apple. The wood is used for making carts. The *netar sing*, Spathodœa falcata, a rather uncommon tree, has pinnate leaves, white and pretty flowers, and curved and twisted pods, about eighteen inches long, and not more than an inch broad. The *aledi*, Morinda exserta, is a common tree, from whose bark and roots a yellow dye is made. Its pretty yellow wood is used only as fuel. The *aniár*, name unknown, is used sometimes for cart wheels, but generally for fuel. The leaves of the *asopala*, Polyalthea longifolia, are used for covering marriage booths, and those of the *asindri* or *asotri*, Bauhinia racemosa (?) for making cigarettes. The fibre of the *ateri*, Bauhinia speciosa (?) is made into ropes. The dried fruit of the *mendal* is placed on the bridegroom's wrist, and a decoction of it is used medicinally. The *kaledi* is common. It yields a low-valued gum, and from its wood platters are made. The bamboo,

Chapter II. Production.

vás, Bambusa arundinacea, is not large, but is pretty plentiful in hilly ground in the north-east of Godhra. In several parts of the district there are remains of old bamboo forests, and in low lands along river banks it would probably grow well and yield a large revenue.

SHRUBS.

The shrubs fall into the natural division of erect growers and climbers. Among the first perhaps the three commonest, sometimes growing to the size of small trees, are the *onkla*, the *sitáphal* or wild custard apple, and the *kál-ambar*. None of these are in any way remarkable in appearance. The *onkla*, Alangium lamarckii, has willow-shaped leaves, and in the hot weather rather pretty whitish flowers, with very long stamens. The wild custard apple, Anona squamosa, said to be a foreigner, grows wild all over the Panch Maháls. The fruit is scarcely worth eating. The *kál-ambar*, Ficus asperrima, is the fig with large and exceedingly rough leaves, often used as sand paper. Its greatest peculiarity is that, at least when young, the branches are jointed and hollow. The *kada*, Holarrhena antidysenterica, a small tree, when not in blossom hard to tell from a shrubby Wrightea tinctoria, has larger but less handsome white flowers. Its wood is used for small rafters. Melanthesopsis patens is another very common shrub, tall and spreading with small and thickly placed leaves. Neither flower nor fruit are at all remarkable. The *madars*, Calotropis gigantea and C. procera, are as common as every where else, and always in flower. The next two are commoner here than in most places. Leonotis nepecefolia grows as much as eight feet high, and is seen everywhere near villages and hedgerows. It is easily recognized by its unbranched stems with velvety orange coloured flowers in globular clusters clasping the upper part of the stem at intervals. Clerodendron phlomoides is a spreading hedge shrub, whose white flowers in December make it look at a distance like a hawthorn bush. Another very common hedge shrub is Barleria prionitis, whose buff flowers would be thought handsome, if there were more of them. Like the well known *karanda*, Carissa carandas, also found in hedges it is very thorny. The gaudiest shrub is perhaps the *aval*, Cassia auriculata, said to be common all over India. Its very handsome bright yellow flowers and the size of the shrub make many a piece of waste look at a distance like an English gorse-clad common. Two other Cassias, occidentalis and tora, like the rest of the family, covered in the rains with yellow flowers, are very common. They are chiefly remarkable for their exceedingly nasty smell. The wild indigo, *nil*, Indigofera tinctoria, is a shrub, from two to three feet high with inconspicuous flowers. Two much larger leguminous shrubs are tolerably common and conspicuous in hedges, *kachki*, Caesalpina bonduc, and *chilári*, Acacia intsia. The *kachki* has spikes of yellow flowers and flat oval pods, covered with prickles, and the *chilari* round heads of white flowers and showy clusters of thin, dark-red pods, about six inches long by one broad. Both of these, especially the *chilari*, are to some extent climbers. Zizyphus nummularia is very common and thorny. Except that it is a low shrub, spreading close to the ground, this is exactly like the common *bor*, Zizyphus jujuba. The graceful tamarisk, Tamarix ericoides,

well known in English sea-side places, grows commonly in the beds of rivers and on river banks. The *dhávri*, Woodfordia floribunda, is a small shrub, the flowers used as a red dye. The last to be mentioned are *bichu akara*, Martynia diandra, an annual herb and a foreigner, found often in and about cultivated ground, with a handsome foxglove shaped flower, and a curious fruit like a beetle with two sharp horns; Cadaba indica with white flowers of little beauty, and a scarlet fruit like a pod, and Petalidium barlerioides, a big straggling shrub, with handsome wide-mouthed white flowers and large green veined bracts.

Of climbers, two or three, found in almost all districts, must first be mentioned. Cowitch, *kavaj*, Mucuna pruriens, has S shaped pods, closely covered with brown stinging hair. The flowers are a lurid purple, and though large are not striking. Another common leguminous climber is *gavria*, Canavalia ensiformis, with rather large pink flowers and thick heavy pods. Cocculus villosus is exceedingly common, and spreads widely. The leaves are small, oval and downy, and, until the small red berries come, nothing about it is very noticeable. Dœmia extensa is also a hairy climber, of no beauty, though it bears white flowers nearly all the year round. Like all the family, it is full of bitter milk, and the double seed vessels are covered with soft prickles. The beautiful Clitoria ternatea, with blue shell-shaped flowers, is common in hedges, and so is the *guraj*, the smaller Abrus precatorius. Its flower is inconspicuous, but after the pod has burst, the bright red seeds shine out from every hedge. The *tamanya*, Vitis carnosa, with three distinct stalked, serrated leaflets and clusters of soft black-currant-like berries, is not so common as in the Konkan. Another pretty, though not very striking climber, is Bœrhavia repanda, with very small pink flowers on long stalks and smooth heart-shaped leaves. Perhaps the largest of the climbers is the *bika*, Ventilago madraspatana, with at the end of green far stretching branches, clusters of small flowers and pea-shaped fruit with a long thin wing attached to it.

Of the Convolvuli, the elephant creeper, Argyreia speciosa, and the common but pretty Ipomœa sepiaria with pale pink middle-sized flowers, and heart-shaped leaves, are the only climbers that can be recognized in the cold weather. Of Cucurbi taceæ, Lehneria garcini, is in some places common in hedges, the leaves with their five much separated round and toothed lobes, are rather curious looking, and so are the small deep-red horizontally egg-shaped berries. Mukia scabrella, also a small climber, very rough with minute yellow flowers and small scarlet berries, is one of the very common Indian hedge plants. The *rán turai*, Laffa amara, climbs high, and has largish yellow evening-blooming flowers, and oblong ribbed fruit, which, during the greater part of the year, hangs in the hedges, dry and brown. The *dilori*, Cephalancha indica, perhaps the commonest Konkan hedge plant, grows in the Panch Mahals, but not freely. It has handsome white flowers and an oblong fruit, so beloved by birds and squirrels that it scarcely ever ripens to its proper scarlet. Of Capers, Maerna corenaria, the only climber has small green flowers, and

Chapter II. Production.

irregular shaped in no way remarkable fruit. The only climber that calls for mention is the very small but exceedingly pretty balloon vine, Cardiospermum alicacabum. Its finely cut leaves and tendrils, its small white flowers on long stalks, and inflated three-lobed capsule enclosing three round black white-spotted seeds, make nearly every part of it noticeable.

PLANTS.

To arrange plants and draw the line between them and shrubs is not easy. For grouping, as well as recognition, perhaps the simplest plan is to take them according to the locality they thrive best in, water, marsh, and dry-land.

Water.

Of water plants, found in or on ponds and river-bed pools, the three sorts of waterlilies are tolerably well known. First, the large Nelumbium speciosum, whose leaves and pink or white flowers grow on stalks, sometimes three or four feet long; second, the ordinary white or red Nymphœa lotus; and third, the Nymphœa stellata, about the same size as the last but often blue as well as white or red, and distinguished from it by the petals and sepals being more pointed and the anthers having white appendages. Perhaps the next commonest, found in any ditch, is the Convolvulus Ipomœa reptans, with long creeping and rooting stems, pretty rose-coloured flowers, and arrow-shaped leaves. The water chesnut or *shingodi*, Trapa bispinosa, is not very conspicuous, but the flowers are white, the leaves arranged in whorls, and the fruit long stalked, irregulary angled, and with two sharp horns straight and barbed. Another plant, creeping under and on the water to a long distance, is Irissida repens, with bright green leaves, red stems, and primrose coloured flowers, opening like the rest of the family in the evening. Sagittaria obtusifolia, named from the arrow-shaped leaves of the germs, has long tapering points to the lower ends of the leaves, which rise out of the water on very long stalks. The flowers are white but make little show. Round the edges of all ponds and pools are seen patches of Hygrophila longifolia, a rigid plant, about two feet high, with narrow leaves and handsome blue unstalked flowers, each cluster surrounded by six long thorns, with small round lotus-like leaves and clusters of cup-shaped flowers, growing out of the leafstalk. Next are two species of Limnanthemum or water buck bean. The larger, Limnanthemum indicum, has plain white flowers, bearded on the margin; the smaller, Limnanthemum aurantiacum, white flowers, the throat much bearded, and of a deep orange colour. Of the order Scrophulariacæ two smaller plants almost always grow with the water buck beans; of these one is Limnophila gratioloides with pale purple flowers and leaves of three different sorts, those under water in hair-like masses, those just above the water divided into lobes and surrounding the stem, and those at the top simple lance-shaped. The other, Herpestes monnieria, has also pale half-opened flowers, but is without the peculiarity of three different sets of leaves. Another very common plant that grows in masses in moist places is Ammania baccifera, the stems are square and tinged with red, and its whole leaf arrangement is remarkably regular. Neither flower nor fruit is noticeable. With this is often seen a small plant of the Cruciferous or cabbage and water-cress

family, Cardamine hirsuta, with erect pods. This to look at is a common plant, and is only noticed because it grows in England. The beautiful little hooded milfoil, Utricularia stellaris, only two or three inches high, with bright yellow flowers, rising on very slender stems and hair-like leaves, is found spreading over wet ground, and is properly an aquatic, though half an inch of water is enough for it. Two of the goose-foot tribe, Polygonum rivulare and Polygonum elegans, must be noticed. The first is a smooth straight plant with lance-shaped leaves and a head of flowers not unlike an ear of wheat. The second spreads flat on the ground, and is easily known by its very small deep-red flowers and ragged white stipules. It has altogether something the appearance of a heath.

This seems to conclude the list of aquatic flowering plants, but it may be remarked that in the Panch Mahâls, as elsewhere, the commonest plant that grows in and near water is a non-flowering pepper-wort, Marsilea quadrifolia, whose leaves are of the exact quatre-foil shape. There are many non-flowering duckweeds and sedges.

Marsh.

After water come marsh plants. In the Panch Mahâls besides on river banks and beds, during the cold weather, marsh plants clothe with green the empty rice-fields. They are all of small size. The largest and one of the commonest is perhaps Cæsulia axillaris, whose flowers of a pretty lilac and white, grow in close heads, attached to the dilated base of the leaves. With it is often found Cyathocline stricta, a delicate plant, with pretty much divided hairy and strong smelling leaves, and reddish purple small flower heads. Another is Sphœranthus mollis, very common on rice fields, with a strong balsamic smell, but by no means beautiful. The flowers are in dull red heads, nearly as big as a marble, and the leaves below the meeting with the stem run down it in wings. A fourth, of the same order (Composite), a very common weed everywhere, is Eclipta alba with white flowers; and a fifth, coming out rather late in the cold weather but in the same moist lands, is Gnaphalium indicum, a small soft hairy plant of a light grey hue, and with small straw-coloured heads of flowers. This is very like the English Gnaphalium. Heliotropium ovalifolium is also very common on rice fields, with velvety much wrinkled leaves and small white flowers. Striga euphrasioides is another small plant, rough all over with rather pretty white flowers, the tube long and very narrow. Lobelia trigona, another very small plant, with the peculiarity of three cornered stems and stamens protruding through a slit in the lower lip of the corolla, is also common. Finally, of rice-field plants is Sutera glandulosa, not mentioned in any Bombay books, but given by Drury as a Central Indian plant. It is very small with finely-cut leaves and pale flowers, and is hairy and glutinous all over. Stemodia viscosa is another rice-field plant, small, sticky, and with dark blue flowers. There is also the small gentian, Exacum pumilum, known by its square stem with smooth opposite leaves, and very pretty starlike dark-blue flowers, with large yellow anthers.

Dry-land.

Of dry-land plants, two small Convolvuli may first be mentioned, both of them found creeping on the ground in grassy or sandy places.

Chapter II. Production. PLANTS. *Dry-land.*

Evolvulus hirsutus has flowers of the loveliest blue, smaller, but rather like those of the common English speedwell. This is not much like an English convolvulus, but Convolvulus microphyllus is very like the common English bindweed, and no one could mistake it for a member of any other family. Another beautiful English plant, found occasionally, is the common pimpernel, Anagallis arvensis, but instead of scarlet the Indian variety has flowers of a splendid dark-blue. Two stout plants of the nightshade order are very common here as elsewhere, Solanum jacquini and Solanum indicum with flowers much like those of the potatoe. The second is the larger, almost a shrub in size. Both are prickly with, especially the first, spike-covered leaves. A third Solanum without prickles, and smooth all over, is Solanum nigrum. This, much rarer than the others, is found in England, and like the common nightshade has small flowers. Another plant, which about cultivated fields grows as much as five feet high, is the *kalpa*, Trichodesma amplexicaule, rough all over, like most of its order, with rather pretty lilac-coloured flowers. Of Compositæ, which are not often remarkable for beauty, we have Echinops echinatus covered all over with prickles, and clearly of close kin to a thistle. It is all over of a grey hue, and the small whitish flowers are in large round heads. Another purple thistle, more like the blue beetle thistle of England, is Tricholepis procumbens, which straggles over sandy ground. Perhaps the commonest of Compositæ is the Vicoa auriculata, with small yellow camomile-like flowers on long stalks, and rather narrow much wrinkled leaves. The strong smelling and very hairy stout plant, with small yellow heads of flowers, is Blumea holosericea. Launea bellidifolia is common in sandy ground, with much resemblance in its light yellow flowers and deeply gashed leaves to a milk thistle. These, with several already said to flourish in damp ground, make up a tolerable list of Compositæ. Elephantopus scaber is nothing better than an impostor. At the beginning of the rains it puts forth close to the ground a number of primrose-like leaves. For two or three months it shows no flower, and then a long stiff stem shoots up, with, at the top, a remarkably ugly head of purple flowers. Perhaps this is the place to mention the yellow Mexican thistle, though it is not a thistle but a poppy, Argemone Mexicana. It is as common here as everywhere else, and not the least like a foreigner.

Of Capers, Cleome viscosa, a weed in most districts, is found here. It is hairy and sticky all over with leaves of three or five leaflets, yellow flowers, and a long erect pod-like fruit. Gynandropsis pentaphylla is less common; it has something of the same appearance, but is altogether more agreeable, the white flowers being rather pretty. Of Scrophulariacæ, Celsia coromandeliana is a stout plant growing in waste places, whose leaves and flowers are much like the English *mullein*. Verbascum Lindenbergia urticafolia is a small downy plant, growing out of old walls and rocks; the small yellow flowers are something like snapdragons. Of the large order of Acanthacæ, the characteristics of which are generally well marked, the handsomest is Daedalacanthus nervosus, with spikes of very pretty violet or blue flowers with darker stripes, much contracted in the throat. Ruellia

elegans is a small, but in favourable situations very pretty plant with bright blue bell-shaped flowers marked with reddish stripes. Haplanthus verticillaris has flowers rather like the last, but is a larger and coarser plant, and the flowers are surrounded by short and rigid, but not thorny, spines. Ruellia dijecta is a lowly plant, with rather large solitary bell-shaped blue or lilac flowers. Lepidagathis rigida is a strong hairy plant, very prickly and with much smell, the flowers in spikes white with brown spots. Blepharis bærhaavifolia is a creeping and straggling plant, with leaves in fours, and pale irregular flowers, surrounded by bristly bracts. Peristrophe bicalyculata, straggling, untidy looking, has rough hexagonal stems and small pink flowers at the end of long stalks. Justicia diffusa is a very small and very common plant, with spikes of pale blue flowers. From the bracts crowded together all up the spike, flowers emerge, with white membranous edges. Nelsonia tomentosa, a low-growing very hairy plant, with spikes of small lilac and purple flowers, may conclude this order.

Of the Labiatae or mint family, the chief are two common-looking plants, found in great quantities in tilled or fallow fields, Leucas linifolia and Leucas cephalotes. They have both white flowers in globular heads and clusters round the stem. Besides other smaller differences, the first is soft and downy, and the second smooth. Leucasbiflora, distinguished among the species of this genus by having only two flowers together in the axils of the leaves, is not so common as the other two. Salvia plebeia is a rather pretty plant with small lilac flowers, very much wrinkled leaves, and a strong mint-like smell. Nepeta Bombaiensis is not common; it is not much unlike the last. Avisorneles ovata is a tall straggling plant of little beauty, with large heavy heart-shaped leaves and purple flowers.

Of Amaranths, Celosia argentia is so common in cultivated fields as to look sometimes as if it had been planted. Its spikes of shaggy often twisted flowers are of a silvery white tinged with pink. Aerva lanata has also white spikes, but they are short, blunt and woolly, as are the leaves, and the whole plant is grey. Achgranthes aspera is nearly as common, and entirely without beauty, the long unclothed spikes seeming to bear little else on them beyond the bristly bracts.

Of Euphorbias, the milk bush, Euphorbia neriifolia, and of Cacteœ the Opuntia dillenii or prickly pear are commonly used for hedges and roadside fencing. Baliospermum montarium is a strong coarse and untidy-looking plant, with large-toothed leaves, and three-lobed fruit, the size of a small gooseberry. Crozophora plicata has a fruit of the same shape but smaller, but the whole plant is rough and hairy, keeping close to the ground, and the leaves are dark and much wrinkled. It is necessary to mention two or three leguminous plants, though probably many more may be seen in the rains. The commonest is perhaps Crotolaria filipes, very small and very hairy, prostrate on the ground, with yellow and inflated oval legume. Indigofera cordifolia is as common, as small, as hairy and as prostrate, but the flowers are dark-red. Indigofera hirsuta, much less common, is a stout erect plant, also hairy, the flowers small and pink, but in dense racemes, and the pods stiff and erect and rather four-angled.

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Of Mallows, there is the common but handsome Urena sinuata with dark pink flowers and rounded much-lobed leaves. Sida humilis, a common looking little plant, with yellow flowers, and Abutilon graveolens, a big shrubby plant, clammy and hairy, with large orange-coloured flowers and roundish leaves.

Forests.

The Panch Mahál forests lie chiefly in the centre of the district. The west, though well wooded, has few forest trees, and the east, except fruit trees in fields and some stony hill lands in the remoter villages, is bare of timber. In the centre the Godhra woodlands stretch over undulating plains, and the sides of small granite hills, and those in Hálol partly over plains, partly over rocky uplands, and partly on the slopes of Pávágad hill. Till 1860 the produce of the Panch Mahál forests was in little demand. Teak was preserved. But, with this exception, on paying an export duty of less than one per cent, all kinds of timber might freely be cut. The forest revenue was very small. In 1861 the construction of the Bombay Baroda and Central India Railway raised the value of timber. The forests were let to a contractor, who is said to have taken out of them 100,000 sleepers. In 1863 the Conservator reported the forests well stocked with useful timber, including several kinds not generally known, and as valuable as teak. In his opinion, if protected from sixteen to twenty years, the teak alone would be worth £200,000 (Rs. 20,00,000).[1] At his suggestion, eight kinds of trees were protected, so far as to forbid the cutting of such as were less than four feet in girth. A small establishment at a monthly cost of £9 6*s.* (Rs. 93) was also sanctioned. In 1870 Dr. Brandis,[2] the Conservator General for India, examined the forests. He thought them poor, and was of opinion that grass, fuel, and building timber were the only likely sources of revenue. He recommended an increase of establishment, and one European officer, an inspector and four foresters were sanctioned. Since 1871 the forest staff has been gradually increased. At present (1878), besides the European officer, it includes seven permanent and seventy temporary men. In 1866 twenty-seven tracts, varying in area from five to 200 acres, were set apart as special Government reserves. But the system followed, chiefly from the small size of the plots, was not approved, and the work of demarcation made little progress, till in 1873 forty-two square miles were taken up as Imperial reserves. Since 1873 the work has made steady progress. In 1878 in the Kálol sub-division a total of 170 square miles has been demarcated and sanctioned, and selections of more forest land are being made. In former years the forest revenue was small, and was included under the general head of miscellaneous or *sayar*. In 1877 the total receipts amounted to £2519 (Rs. 25,190) and the expenditure to £1394 (Rs. 13,940), leaving a net revenue of £1125 (Rs. 11,250). In 1877, 14,549 tons, 9857 of them timber,[3] and 4692 firewood, passed out of the district by way of Páli. The bulk of

[1] Gov. Sel. LXXVII. 12.
[2] Dr. Brandis' memo. dated 13th June 1870.
[3] The Deputy Conservator of Forests (Mr. Muller) estimated the timber trade in 1870 at 23,543 cart-loads of the value of Rs. 3,53,145; of these the foreign timber passing through the district represented 19,657 cart-loads of the value of Rs. 2,94,855.

this supply is said to come from Lunávada, Sunth, Báriya, and Udepur, and other states bordering on the Panch Maháls. It goes to Baroda, Kaira, Ahmedabad, and eastern Káthiáwár. Except a small demand for *bábul* by the Public Works Department and the Railway, this timber is entirely used by private house-holders. It is for the most part small, chiefly teak rafters, in the dearth of bamboos much used for roofing. Rena, a village in the Godhra sub-division, was, before the opening of the Páli railway station, the chief timber mart. Since then the trade centres at Godhra, and is chiefly in the hands of Sunni Bohorás. Except the flowers of the *mahuda*, Bassia latifolia, gathered in the hot months, April and May, and exported in large quantities, the minor forest produce is at present of little consequence. There is no export of honey, lac or gum, and the only colouring material of any value is the yellow bark of the *aledi* tree. Kolis and Bhils work as woodmen, but the only local forest tribe are the Náikdás. These are very good workers and much used in the forest. The men's daily wage varies from 3*d.* to 6*d.* (2 - 4 as.) Women, when employed, but this is not often, earn for the day about 2½*d.* (1 as. 8 p.) and children 1½*d.* (1 as.)

ANIMALS.
Domestic.

The domestic animals are oxen, cows, buffaloes, horses, sheep, goats, and asses. Of oxen the 1876-77 returns show a total of 86,024 head. Little care is taken in breeding oxen. Compared with the neighbouring Kaira and Baroda bullocks, most of them are poor, small, and weak. At the same time they are hardy and active, and can work on the poorest fare. A pair of them costs from £3 to £5 (Rs. 30 - Rs. 50). In some of the larger towns is a better class of bullocks. Those belonging to the Godhra Ghánchis, apparently a cross between the local and the large Kaira cattle, are of fair size and good draught power. Three or four pairs of them, at the rate of about twelve miles a day, will draw a wagon-load of as much as one ton and 8½ cwt. (40 Bengal *mans*). A pair of these draught bullocks is worth from £5 to £10 (Rs. 50 - Rs. 100). Of cows the total is returned at 90,928, and of she-buffaloes at 31,762. Like the bullocks, the cows are poor, yielding from two to five pints of milk a day, and costing from £1 to £2 (Rs. 10 - Rs. 20). Buffaloes are common, many of them of fair size and quality. Large herds are owned by professional herdsmen of the Chárán caste. These men come chiefly from Káthiáwár, and many of their buffaloes are of the well known Nágodi breed. She-buffaloes, when in milk, give from six to fifteen pints a day, and vary in value from £3 to £6 (Rs. 30 - Rs. 60). Male buffaloes (5911) are not used either in draught or in tillage. They are either killed when young or sold in other parts of Gujarát. Horses, returned at 3488, are seldom more than ponies in size. They are small and poor, stunted by bad keep and careless breeding. Few of them are worth more than £2 (Rs. 20). Of sheep and goats the 1876-77 returns show a total of 34,080 head. Sheep are fairly plentiful. In Jhálod and Hálol they are generally poor, leggy, and bony with coarse wool. The western sheep show more signs of breeding, better built, fleshier, with fairly close fine wool. The chief sheep and goat breeders are wandering herdsmen, Rabáris, Bharváds, and Kámaliás.

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ANIMALS.

Domestic.

Besides breeding, these men keep stores of clarified butter, and make some profit from wool, either selling it, or working it into coarse blankets or *kámlis*. From the south-west of the district there is a small export of sheep to Baroda, and to Neemuch and Mhow from the north-west. Goats are common. But most are the rough black or red breed, of no great value as milkers. Their hair is mixed with sheep's wool in making blankets and in stuffing pillows. Of camels the 1876-77 returns show a total of 419. About the beginning of the cold season, November, large herds of breeding camels are brought from Márwár, kept in pasturage till June, and then taken back to their own country. The breeders, Márvádi Rabáris, pay a grazing fee of two young camels.

Asses, with a total strength of 1701, are bred throughout the district. As a rule all potters, *kumbhárs*, and rice-huskers, *golás*, keep asses, the potters to carry earth and earthen pots, and the rice-huskers to carry grain. They are treated with little care, and left to pick up what fodder they can find. An average ass-load is about 160 pounds (4 *mans*). They vary in price from 16*s.* to £2 (Rs. 8-Rs. 20). The domestic fowls are hens and ducks. Hens are reared chiefly by Musalmáns, Kolis, and Bhils, in all villages and towns. Ducks are also reared but only in small numbers.

Wild.

As late as the seventeenth century (1616 and 1645) the Dohad forests were famous for their wild elephants.[1] And twenty years ago, though all traces of wild elephants had passed away, the Panch Mahál and Rewa Kántha districts were, besides of deer and other smaller animals, a favourite resort of tigers, panthers, and bears. Found to some extent over the whole district the larger sorts of game were commonest in Godhra, in parts of Hálol, and along the western borders of Dohad and Jhálod. Their favourite haunts were river-bed patches of bastard cypress, Tamarisk, and especially near Godhra the caves and crevices of the low boulder-covered granite hills. The tillage area was then small, and besides stray cattle a fair stock of *nilgái*, small deer, and pig, and a chance spotted deer or stag furnished plentiful supplies for the large beasts of prey. Their quiet was little disturbed, European sportsmen seldom visited the district, and from the Bhils and Kolis, except on the rare occasion of some big hunting party, the larger animals had little to fear. In 1860, when the district came under British management, the forests were full of big game, and during the next eight seasons from forty to seventy head were yearly killed. In 1865 the results of the year's shooting included twenty-two tigers, ten panthers, and thirty-eight bears. Besides this destruction, two causes, the clearing of their former haunts, and the shortening of their food supplies, have been at work to reduce the number of big game. Tillage has steadily spread, and not only the open glades, but many thick rich patches of wood on the banks of streams, where tigers used always to lie, are now well guarded

[1] In 1616 the emperor Jahángir (1605-1627) came to Gujarát to hunt elephants in the Dohad forests and in 1645, seventy-three elephants were caught in the Dohad and Chámpáner forests.

ANIMALS. *Wild.*

fields of tobacco and sugarcane. At the same time greater care in grazing cattle and the destruction of deer have cut down two of the chief sources of their food supply. Tigers are gradually withdrawing from their old haunts. Even in the thickest and safest covers a stray animal is only occasionally found. Panthers wanting less food and shelter give ground slower. But on them too the spread of tillage presses hard, and their numbers steadily drop off. The Pávágad forests and the well-wooded country between Pávágad and Devgad-Báriya still attract the largest game. But even when found, animals take shelter in caves and rocky fissures so deep that neither smoke nor fireworks can drive them out. A sportsman willing to work will probably not leave altogether empty-handed. But blank days will be the rule and success the exception. During the last four years (1874-1877) not more than ten head of large game have on an average been killed. Of Tigers, *vágh*, Felis tigris, two were killed in 1873, six in 1874, and three each in 1876 and 1877. The Panther, *dipdo*, Felis leopardus, is still in considerable numbers. But the shelter among the large granite rocks is so good, that once among them panthers are very hard to dislodge. Two were shot in 1876 and four in 1877. The Leopard, *chita*, Felis jubatus, less common than the panther, is sometimes seen. The Black Bear, *rinchh*, Ursus labiatus, is found in considerable numbers. Like panthers, bears find such good shelter among the granite rocks that they are not often killed. The Hyœna, *taras*, Hyœna striata; the Jackal, *siál*, Canis aureus; and the Fox, *lokri*, Vulpes bengalensis, are common everywhere; the Lynx, *siágosh*, Felis caracal, and the Wild Cat, *bángad billi*, Felis chaus, are comparatively rare. The Wild Boar, *dukar*, Sus indicus, is found everywhere in the forests. Of Deer there are the *sámbar*, Rusa aristotelis, found only on the slopes of Pávágad hill; the Spotted Deer, *chital*, Axis maculatus, common in certain parts of the district; the four-horned Antelope, Tetraceros quadricornis, found in most places, and the Gazelle, *chikára*, Gazella bennetii, and Blue Bull, *nilgai*, Portax pictus, common everywhere. The Antelope, *kaliar*, Antilope bezoartica, common over the rest of Gujarát is, perhaps because the country is not open enough, scarcely ever[1] found in the Panch Mahál.

BIRDS.

Of wild birds there are of water birds the Black-backed Goose, *mukta*, Sarkidiornis melanonotus, the Cotton Teal, Nettapus coromandelicus; the Widgeon, Mareca penelope; the Pin Tailed Duck, Dafila acuta; the common Teal, Querquedula crecca; the Blue-Winged Teal, Querquedula circia; the Red-Headed Pochard, Aythya ferina; the White-eyed Duck, Aythya nyroca; the Tufted Duck, Fuligula cristata; the Whistling Teal, Dendrocygna javanica (Horsf); the Shoveller, Spatula clypeata; and the Snake Bird, Plotus Melanogaster. Of Cranes there are the *sáras* crane, Grus antigone; the common crane, Grus communis (Bechst); and the Demoiselle crane, Anthropoides virgo. Of Snipe the Common Snipe, Gallinago scolopacinus; the Pin Tailed Snipe, Gallinago sthenura; the Jack

[1] Two, the first on record, were shot in 1878.—Mr. Acworth.

Chapter II. Production.

BIRDS.

Snipe, Gallinago gallinula; and the Painted Snipe, Rhynchæa bengalensis. Of Storks the Adjutant Bird, Leptoptilus angala. Of Herons the Purple Heron, Ardeola purpurea; and the Pond Heron, Ardeola leacoptera. Of other water birds the Purple Coot, Porphyrio poliocephalus; the Bald Coot, Fulica atra; and the Bittern, *nari*, Botaurus stellaris. Of Plovers the Indian Courier Plover, Cursorius coromandelicus; and the Stone Plover, Ædicnemus crepitans. Of Partridges are the Painted Partridge, Francolinus pictus; and the Grey Partridge, Ortygornis ponticeriana. Of Quail are the Grey Quail, Coturnix communis; the Rain Quail, Coturnix coromandelica; the Rock Bush Quail, Perdicula argoonda; both Button Quails, Turnices Jondera and Dussumieri; and the Bustard Quail, Turnix taigoor. Of other birds there are the Common Sand Grouse, Pterocles exustus, and the Painted Sand Grouse, Pterocles fasciatus; the Peacock, Pavo cristatus; the Red Jungle Fowl, Gallus ferrugineus, a rare bird; the Grey Jungle Fowl, Gallus sonneratii, common in Godhra; and the Red Spur Fowl, Galloperdix spadiceus.

SNAKES.

Snakes are common in the Panch Maháls, especially in and near Godhra. Four sorts are noticed as specially dangerous, the *Cobra*, the *Chitla*, the *Kódya*, and the *Tanach Kot* or *Tiran*, a tree viper. The *Chitla's* bite, though not always fatal, causes rapid mortification in the part bitten, and cases of men and animals crippled for life by a *Chitla* bite are common. The *Kodya*, though very poisonous, is said to be not always fatal. The *Kot* or *Tanach* is said to be very venomous. More than either snakes or vipers, the natives fear the *Guera* or biscobra. Any amount of evidence is forthcoming as to its fearfully poisonous character. They admit it has no fangs, but say the poison lies in the spittle. The number of deaths reported from snake-bites was forty-three in 1872, forty-four in 1875, thirty-nine in 1876, and sixty-four in 1877. In Gujarát, Government rewards are granted for the destruction of the following animals: Tigers, full grown, £2 8*s.* (Rs. 24); half grown, £1 4*s.* (Rs. 12); cubs, 12*s.* (Rs. 6); Leopards, Panthers, and Chitás, full grown, £1 4*s.* (Rs. 12); half grown, 12*s.* (Rs. 6); cubs, 6*s.* (Rs. 3); Cobra de capello, 6*d.* (4 annas); *Phursa* or Cobra Manilla, 3*d.* (2 annas); other species possessing a fang in the upper jaw, ¾*d.* (6 pies). The animals are identified and the rewards generally paid by the Mámlatdár.

FISH.

The Mahi only touches a few of the western villages, and, as it has no other river, the district is almost entirely without fish. A few are found in the larger ponds and reservoirs. But the supply is too small to support a separate class of fishers.

CHAPTER III.

POPULATION.

SINCE the transfer to the British a census of the Panch Maháls has twice been taken. The first in 1855 showed a total population of 143,595 souls, the second in 1872 showed 240,743 souls or an increase in seventeen years of 67·65 per cent. Of the first census no details are available. At the time of the second census, of the whole number of 240,743 souls, 225,775 or 93·78 per cent, were Hindus, 14,921 or 6·19 per cent, Musalmáns, thirty Christians, and seventeen Pársis. 1855 and 1872.

The following tabular statement gives for the year 1872 details of the population of each sub-division of the district according to religion, age, and sex: Distribution.

Panch Maháls Sub-division Population, 1872.

SUB-DIVISION.	Not exceeding 12 years.		Above 12 and not exceeding 30 years.		Above 30 years.		Total.		Grand Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Persons.
HINDUS.									
Godhra	14,164	12,141	12,158	10,554	9826	7944	36,148	30,639	66,787
Kálol	13,817	12,120	11,308	10,524	8727	7554	33,852	30,198	64,050
Dohad	19,973	19,421	16,951	16,047	11,480	11,066	48,404	46,534	94,938
Total ...	47,954	43,682	40,417	37,125	30,033	26,564	118,404	107,371	225,775
MUSALMA'NS.									
Godhra	1429	1325	1262	1137	1065	975	3776	3437	7213
Kálol	434	383	471	375	393	315	1298	1073	2371
Dohad	906	863	1115	910	771	772	2792	2545	5337
Total ...	2769	2571	2868	2422	2229	2062	7866	7055	14,921
CHRISTIANS.									
Godhra	1	...	1	1	3	...	5	1	6
Kálol	...	...	1	...	2	...	3	...	3
Dohad	4	2	6	5	4	...	14	7	21
Total ...	5	2	8	6	9	...	22	8	30

Chapter III. Population.

Sub-division.	PA'RSIS.								
	Not exceeding 12 years.		Above 12 and not exceeding 30 years.		Above 30 years.		Total.		Grand Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Persons.
Godhra	...	...	2	1	4	1	6	2	8
Kálol	1	...	2	2	2	...	5	2	7
Dohad	...	...	...	...	1	1	1	1	2
Total ...	1	...	4	3	7	2	12	5	17
	TOTAL.								
Godhra	15,594	13,466	13,443	11,693	10,898	8920	39,935	34,079	74,014
Kálol	14,252	12,503	11,782	10,901	9124	7869	35,158	31,273	66,431
Dohad	20,883	20,286	18,072	16,962	12,256	11,839	51,211	49,087	100,298
Total ...	50,729	46,255	43,297	39,556	32,278	28,628	126,304	114,439	240,743

From the above statement it appears that the percentage of males on the total population was (1872) 52·46 and of females 47·53. Hindu males numbered 118,404 or 52·44 per cent, and Hindu females numbered 107,371 or 47·55 per cent of the total Hindu population; Musalmán males numbered 7866 or 52·72 per cent, and Musalmán females 7055 or 47·28 per cent of the total Musalmán population; Pársi males numbered 12 or 70·56 per cent, and Pársi females 5 or 29·41 per cent of the total Pársi population; Christian males numbered 22 or 73·33 per cent, and Christian females 8 or 26·66 per cent of the total Christian population.

Health. The total number of infirm persons was returned at 996 (males 558, females 438) or forty-one per ten thousand of the total population. Of these 18 (males 14, females 4) or one per ten thousand were insanes; 158 (males 88, females 70) or seven per ten thousand, idiots; 253 (males 164, females 89) or eleven per ten thousand, deaf and dumb; 453 (males 205, females 248) or nineteen per ten thousand, blind; and 114 (males 87, females 27) or five per ten thousand, lepers.

Age. The following tabular statement gives the number of the members of each religious class of the inhabitants according to sex at different ages, with, at each stage, the percentage on the total population of the same sex and religion. The columns referring to the total population discard the distinction of religion, but retain the difference of sex:

[1] Bom. Gov. Sel. XXIII. 859.

Panch Maháls Population by Age, 1872.

Age.	Hindus.				Musalma'ns.			
	Males.	Percentage on total male Hindu population.	Females.	Percentage on total female Hindu population.	Males.	Percentage on total male Musalmán population.	Females.	Percentage on total female Musalmán population.
Up to 1 year... ...	5166	4·36	5245	4·88	357	4·54	366	5·19
Between 1 and 6 ...	21,982	18·56	21,349	20·34	1165	14·81	1135	16·09
Do. 6 and 12 ...	20,806	17·57	16,588	15·44	1247	15·85	1070	15·17
Do. 12 and 20 ...	18,363	15·50	15,334	14·74	1295	16·46	1059	15·01
Do. 20 and 30 ...	22,054	18·62	21,291	19·82	1573	20·00	1363	19·32
Do. 30 and 40 ..	16,401	13·85	13,277	12·36	1147	14·58	1010	14·32
Do. 40 and 50 ...	8224	6·94	6920	6·44	636	8·09	545	7·72
Do. 50 and 60 ...	4054	3·42	4663	4·34	323	4·11	337	4·78
Above 60	1354	1·14	1704	1·58	123	1·56	170	2·41
Total ...	118,404	...	107,371	...	7866	...	7055	...

Age.	Christians.				Pa'rsis.				Total.			
	Males.	Percentage on total male Christian population.	Females.	Percentage on total female Christian population.	Males.	Percentage on total male Párasi Population.	Females.	Percentage on total female Párasi population.	Males.	Percentage on total male population.	Females.	Percentage on total female population.
Up to 1 year... ...	1	4·55	...	...	1	8·33	...	...	5525	4·37	5611	4·90
Between 1 and 6 ..	2	9·09	1	12·50	...	...	...	...	23,149	18·33	22,985	20·08
Do. 6 and 12 ...	2	9·09	1	12·50	...	...	...	...	22,055	17·46	17,659	15·43
Do. 12 and 20 ..	2	9·09	...	...	...	...	2	40·00	19,660	15·57	16,895	14·76
Do. 20 and 30 ..	6	27·27	6	75·00	4	33·33	1	20·00	23,637	18·71	22,661	19·80
Do. 30 and 40 ..	8	36·36	...	...	1	8·33	2	40·00	17,557	13·90	14,289	12·49
Do. 40 and 50 ...	1	4·55	...	...	3	25·00	...	...	8864	7·02	7465	6·52
Do. 50 and 60 ...	...	...	...	...	3	25·00	...	...	4380	3·47	5000	4·37
Above 60	...	...	...	...	...	...	...	...	1477	1·17	1874	1·64
Total ...	22	...	8	...	12	...	5	...	126,304	...	114,439	...

Religion.

The Hindu population of the district belongs, according to the 1872 census, to the following sects :—

Panch Maháls Hindu Sects, 1872.

Vaishnavs.					Shaivs.	Ascetics, religious mendicants.	Unsectarian Hindus.	Shra'vaks.	Total.
Rámánuj.	Vallabháchári.	Kabirpanthi.	Mádhváchári.	Purnámi.	Svámináráyan.					
3799	5847	144	264	613	538	6390	791	206,473	916	225,775

Chapter III. Population.

From this statement it would seem, that of the total Hindu population, the Vaishnavs numbered 11,205 or 4·96 per cent; the Shaivs 6390 or 2·83 per cent; the Shrávaks 916 or 0·40 per cent; the unsectarian classes 207,264 or 91·80 per cent.

The Musalmán population belonged to two sects, Sunni and Shia; the former numbered 11,631 souls or 77·95 per cent of the total Musalmán population; and the latter including the Surat or Dáudi trading Bohorás 3290 souls or 22·05 per cent. The seventeen Pársis were Kadmis.

Occupation.

According to occupation the census returns for 1872 divide the whole population into seven classes:

I.—Employed under Government, or municipal, or other local authorities, numbering in all 3309 souls or 1·37 per cent of the entire population.

II.—Professional persons, 1049 or 0·43 per cent.

III.—In service or performing personal offices, 1985 or 0·82 per cent.

IV.—Engaged in agriculture and with animals, 55,047, or 22·86 per cent.

V.—Engaged in commerce and trade, 2991 or 1·24 per cent.

VI.—Employed in mechanical arts, manufactures, and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 12,523 or 5·20 per cent.

VII.—Miscellaneous persons not classed otherwise (*a*) wives 65,492, and children 96,984, in all 162,476 or 67·49 per cent; and (*b*) miscellaneous persons, 1363 or 0·56 per cent; total 163,839 or 68·05 per cent.

Race.

The general chapter on the population of Gujarát includes such information as is available regarding the origin and customs of the Panch Mahál people. The following details show the strength of the different castes and races as far as it was ascertained by the 1872 census.

Priests.

Of Bráhmans, exclusive of sub-divisions, were thirty divisions, with a strength of 5957 souls (males 3194, females 2763) or 2·63 per cent of the total Hindu population. The chief classes are Shrigaud (1838), Audich (1264), Meváda (859), Modh (486), and Nágar (218). Except the Nágars of whom many are holders of alienated land and recipients of cash allowances, the majority of Bráhmans live on alms. Some are peasants and a few are Government servants. The Deccan Bráhmans who, under H. H. Sindia's government held high positions numbered 222 souls.

Writers.

Of Writers there were two classes, Brahma Kshatris (27), and Parbhus (39), with a strength of 66 souls (males 54, females 12) or 0·3 per cent of the total Hindu population. The Brahma Kshatris are employed in Government offices. New comers brought by the British at the time of the transfer of the district, they keep up houses in Broach and other parts of Gujarát and are not yet regularly settled in the district. The Parbhus are all Káyasth Parbhus of the Deccan districts chiefly in the service of Government. They are said to have come into the district during the government of H. H. Sindia.

Traders.

Of Mercantile, Trading, and Shop-keeping classes, were 6688 Vániás belonging to sixteen divisions, 295 Márvádi Shrávaks of two

divisions, 621 Gujaráti Shrávaks of two divisions, and 59 Bhátiás, a total strength of 7663 souls (males 4124, females 3539) or 3·39 per cent of the total Hindu population. In a district inhabited chiefly by the unsettled classes, the Vániás have many chances of making money. A considerable number of Bhils, Kolis, Náikdás, and other poor classes are wholly dependent on their Vánia and Shrávak money lenders.

Husbandmen.

Of Cultivators, besides the Bhils and Náikdás, were seven classes with a total strength of 102,925 souls (males 54,604, females 48,321) or 45·58 per cent of the whole Hindu population. Of these 5112 (males 2819, females 2293) were Kanbis; 5347 (males 2809, females 2538) Rajputs; 928 (males 533, females 395) Káchhiás; 957 (males 504, females 453) Mális; 1030 (males 535, females 495) Rávals; 11,389 (males 5840, females 5549) Pateliyás; and 78,162 (males 41,564, females 36,598) Kolis. The Kanbis and Káchhiás found chiefly in the west are said to have come from Baroda and Kaira. They are skilled husbandmen. The Rajputs though as cultivators inferior to Kanbis are steadily applying themselves to agriculture. The Mális and Rávals are superior to Koli cultivators. The Pateliyás found in Dohad claim Rajput descent. Originally settled near Pávágad they are said to have moved from Chámpáner. And as among them were more men than women they intermarried with the Bhils of Gángdi. Hence they were called *vatáliyás* or the impure, a name which has been gradually corrupted into Pateliyás. The Kolis are found in the west. Of the whole number 75,738 were Talabdás, ninety-four Báriyás, 555 Pátanvádiás, 1330 Lunávádiás, eighty Khánt, and 207 were not classed. Strong and active in body, their want of forethought and love of opium combine to give the money-lenders the benefit of most of their labour.

Craftsmen.

Of Manufacturers there were three classes, with a total strength of 718 souls (males 399 females 319) or 0·32 per cent of the total Hindu population. Of these 590 (males 320, females 270) were Ghánchis, oilpressers; 82 (males 53, females 29) Bhávsárs, calico printers; 46 (males 26, females 20) Chhipás, calenders.

Of Artisans there were nine classes, with a total strength of 6134 souls (males 3194, females 2940) or 2·71 per cent of the total Hindu population. Of these 608 (males 315, females 293) were Sonis, gold and silver smiths; 1020 (males 534, females 486) Suthárs, carpenters; 4 (males 4, females none) Kansárás, coppersmiths; 110 (males 58, females 52) Kadiyás, bricklayers; 29 (males 20, females 9) Saláts, masons; 1650 (males 866, females 784) Luhárs, blacksmiths; 62 (males 32, females 30) Lakhárás, makers of lac bangles; 757 (males 388, females 369) Darjis, tailors; and 1894 (males 977, females 917) Kumbhárs, potters.

Bards.

Of Bards there were two classes, with a total strength of 1091 souls, or 0·48 per cent of the whole Hindu population. Of these 139 (males 73, females 66) were Bháts, bards; and 952 (males 515, females 437) Chárans, genealogists. The Bháts and Chárans have lost their former special position and maintain themselves chiefly as husbandmen and cultivators.

Chapter III. Population.

Servants. Of Personal Servants there were two classes, with a total strength of 1885 souls or 0·83 per cent of the total Hindu population. Of these 1721 (males 902, females 819) were Hajáms, barbers; 164 (males 79, females 85) Dhobhis, washermen.

Shepherds. Of Herdsmen and Shepherds there were three classes, with a total strength of 2854 souls or 1·26 per cent of the total Hindu population. Of these 1736 (males 930, females 806) were Bharváds; 1102 (males 613, females 489) Rabáris; and 16 (males 15, and female 1) Ahirs. They support themselves by the sale of sheep, wool, and clarified butter; the sheep they sell to Musalmán traders, the wool they sell to Kámaliás or blanket weavers, and the clarified butter, *ghi*, to Vániás. The Rabáris own cows and buffaloes and to a small extent cultivate.

Fishers. Of Fishers and Sailors there were two classes with a total strength of 2228 souls (males 1190, females 1038) or 0·98 per cent of the whole Hindu population. Of these 858 (males 468, females 390) were Bhois, and 1370 (males 722, females 648) Máchhis. Bhois and Máchhis are found chiefly in Godhra. Besides fishing they till land and act as ferrymen across the Mahi. The Bhois also grow *shingodi*, Trapa bispinosa, in the beds of ponds.

Miscellaneous. Of Labourers and Miscellaneous Workers there were eleven classes, with a total strength of 6842 souls (males 3832, females 3010) or 3·03 per cent of the whole Hindu population. Of these 191 (males 104, females 87) were Golás, ricepounders; 311 (males 206, females 105) Kaláls, liquorsellers and labourers; 286 (males 178, females 108) Maráthás of several castes from the Deccan employed chiefly as servants; 75 (males 40, females 35) Vághris, fowlers and hunters; 1621 (males 850, females 771) Rávaliás, cotton-tapemakers and labourers; 27 (males 18, females 9) Bhádbhunjás, grain parchers; 191 (males 99, females 92) Kámaliás, makers of blankets, *kámli*; 1950 (males 1212, females 738) Vanjárás; 1835 (males 929, females 906) Lubánás; 268 (males 144, females 124) Ods, diggers; and 87 (males 52, females 35) Bávchás apparently of Deccan origin, labourers. The Vanjárás, whose carrying trade has suffered by the introduction of railways, are to a pretty large extent, especially in the Marva quarter of the Godhra sub-division, beginning to settle as cultivators and day labourers. They live in separate huts not in villages, and though poor and wanting in skill are quiet and orderly. The Lubánás are found in Dohad. Formerly rulers of Jámbua about twenty miles from Dohad they are said to have been defeated and driven out by the Ráthod Rajputs. Besides tilling the ground they act as carriers taking grain from Dohad and bringing back salt.

Unsettled Tribes. Of Unsettled Tribes there were three, with a total strength of 75,492 souls (males 38,388, females 37,104) or 33·43 per cent of the total Hindu population. Of these 69,222 (males 35,086, females 34,136) were Bhils; 6118 (males 3186, females 2932) Náikdás; and 152 (males 116, females 36) Talávias.

Bhils. The **Bhils** are generally very dark in colour, the men muscular, well built, and of a medium height, the women well made but with coarse irregular features. Among the men, except the top knot,

the hair of the head though sometimes cut short is as a rule worn long. The moustache is worn by all, whiskers by some and in most cases the chin is shaved. The women fasten their hair in braids or plaits brought low down over each temple. The Bhils have no village site or group of houses. Each man lives in his field. The Bhil's hut is usually built of bamboo wattled between supporting columns of wood and strongly plastered with grass and mud. The roof is sometimes tiled but more commonly thatched. The hut divided inside into two rooms is surrounded by a cattle-shed, a threshing floor, and a small yard for stacking grain and fodder. The whole enclosed by a strong high creeper-covered fence has a home-like and comfortable air. Of household goods the stock is small. Outside may be seen, if the family is well-to-do, a pair or two of bullocks, or a bullock and a buffalo, a cow, or two goats, and a number of fowls, a cart, and of field tools, a plough, a weeder, *kharpi*, and a crowbar or ploughshare, *kodáli*. But most Bhils have no carts and some of them have no cattle. In the hut besides the sleeping mat, the hand grindstone, and a roll of blanket or torn coverlet, there is nothing but some bamboo baskets and a few pots and cups most of them of clay.

Bhils.

House.

The Bhil's every day dress is a cloth wound round the loins and a long strip twisted round the head. In the rains and cold weather he carries a thick coarse gray blanket. The women commonly dress in a large petticoat, *ghágra*, passed between the legs and tucked into the waist band before and behind. They also wear the bodice, and where they can afford it a large *sádi* wrapped round the body and brought over the head. They tattoo their faces, and to make room for their ornaments, pierce and slash their ears and noses till they are unpleasant to look at. Bracelets of tin or brass cover the arm from the wrist to the elbow and others of glass or lac are sometimes worn between the elbow and the shoulder. On their legs women of good family wear just below the knees a ring with small bells or rattles. Their broad brass anklets worn in tiers from the ankle to the knee weigh altogether about ten pounds and are so clumsy that the women at work in the fields have to stoop instead of sitting down. In the hot season they burn the wearer's skin and limbs. If she can afford it she usually wears a silver chain on each side of the head, fastened round the ear and hooked into the braid over the temple so as to hang over the cheek.

Dress.

The every day food of a well-to-do Bhil is rice, cooked with salt and mixed in buttermilk, and of an ordinary Bhil, Indian corn and buttermilk boiled with pepper pods and sometimes split peas mixed with vegetables. Except the ass, horse, camel, rat, snake, monkey, and among women the witch-loved domestic fowl, the Bhils eat all animals. During the hot weather months the poorer classes live chiefly on mangoes, and on *ráyan*, and *mahuda* berries. Most are peasants, some of them tilling regularly, though roughly, the same fields; others are always changing their houses and lands, and a few wander among the woods and live by wood-ash tillage. Fifty years ago there were almost daily complaints of their daring aggressions.[1] Though they

Food.

Occupation.

[1] Bom. Gov. Sel. XXIII. 321.

Chapter III. Population. Bhils.

are still poor and somewhat unsettled they are not as a class given to serious crime. Fifty years ago the Bhils never approached a town except to attack it. Now the streets of Dohad are crowded with Bhils trafficking with grain dealers, crowding round the money-lender's door, mixing with the people, making purchases, chatting with their friends and selling grain, vegetables, wood, and grass. Nine-tenths of the raw produce of Dohad is sown, tended, and reaped by Bhils. Many are sunk in debt. But they are no longer a tribe of outcast robbers. Among Hindus, though not considered one of the classes whose touch defiles, the Bhil holds a very low place. He eats food cooked by a Musalmán and no high caste Hindu will take water from his hands.

Religion.

Except the female deities known as *máta* or *devi*, Bhils do not worship the ordinary Bráhman gods. They reverence the moon and swear by it and believe in witches and in the evil eye. Their chief objects of worship are spirits and ghosts. To these in the forests near an old tree, or often at some chance spot, they offer clay horses, jars, and beehive-shaped vessels. In honour of the spirits in most of these spirit-yards they also raise beams of timber, sometimes as much as twelve feet long poised on two uprights in the form of a rough seat. Here they offer a goat and a cock; numbers of Bhils coming together to eat the sacrifice and drink. Bráhmans are not held in special respect. Rávals who originally belonged to the Bhát class act as their sacrificial priests. There is generally one Rával's family in every Bhil settlement, who, though they eat and drink with the Bhils, marry only among themselves. Among the Bhils are devotees, *bhagats*, and exorcists, *barvás*, who leaving their families give themselves up to a religious life. These men are much resorted to for their power over ghosts and spirits. The animal they hold in most veneration is the horse. Their chief observances are in honour of the dead. Their only regular Hindu festivals are Holi (March), Dasera (September) and Diváli (October). They fast twice in the year on Phágan sud 11 (March) and at the Holi (March).

Customs.

In the life of a Bhil are four chief ceremonies, naming, shaving, marriage, and death. Five days after a birth the child and mother are bathed and the child is named. Between two and five years old the child's head is shaved. The child's aunt takes the hair in her lap and wrapping it in her clothes receives a cow, buffalo, or other present from the child's father. A well-to-do Bhil generally gets his son married at fourteen or fifteen and his daughter before she is twelve. But, as a rule, marriage seldom takes place before the boy is twenty and the girl fifteen. The choice is made by the relations of the bride and bridegroom. In the morning of the marriage day the bride and bridegroom, each at their own homes, are rubbed with yellow turmeric powder. The bridegroom is bathed and has his eyes and cheeks marked with soot. He wears a turban, a long coat of country cloth, a waist cloth or *dhotar*, and a sword. The party starts with drums and cymbals to the bride's village. The women follow singing. On reaching the bride's house the bridegroom's friends are seated on one side of a *mándva* or booth built in front of the door. The bride is then led in by her mother and seated

Bhils.

opposite the bridegroom. Their hands are joined and the hems of their garments tied. Then while three women sing songs the bride and bridegroom walk together twelve times round a branch of the *salyara* tree placed in the middle of the booth. When this is over the bride and bridegroom feed each other with wheaten bread and molasses. Then the knot is unloosed and after the party has taken a meal the garments of the bride and bridegroom are again tied and the bridegroom taking the bride with him returns to his house. The marriage expenses vary in the case of the bridegroom from £8 to £14 (Rs. 80-Rs. 140) and in the case of the bride from 10*s.* to £1 10*s.* (Rs. 5-Rs. 15). A man may marry a second or a third wife in the lifetime of the first. A woman marries again, not only if her husband dies but if she gets tired of him, and can bring another man to take her and pay her husband his marriage expenses. The children, if there are any, stay with the father. A Bhil youth and girl anxious to marry but unable to find the necessary £7 (Rs. 70) or so, not uncommonly arrange that he should carry her off on her way to or from some fair or wedding feast. She then lives with him as his wife, and when her parents come in pursuit, an agreement is made for paying the dowry by instalments, or in some other way suited to the bridegroom's means.

Death.

When life is gone, the relations, bathing the body, place a waist cloth, *dhotar*, over it, and laying it on a rough bamboo bier carry it to the burning ground. The son or other nearest relation of the deceased sets the pyre alight all round. When the body is half burnt the mourners bathe and returning to the deceased's house smoke tobacco for a short time, and after saluting each other go home. As soon as the deceased's family can raise enough money the anniversary day is held when much liquor is drunk. If the deceased was a man of importance, a year or two after his death his relations go to a stone mason and make him cut on a stone slab the figure of a man on horseback with a spear in his hand. When his task is done the mason is paid by the gift of a cow or she-buffalo. The stone is washed, daubed with red powder, covered with a white cloth, and taken to the village spirit-yard or *devasthán*. There a goat is killed, its blood sprinkled on the stone, and its flesh cooked and eaten with as much liquor as the party can afford.

When there is a great want of rain the women and girls go out dancing and singing with bows and arrows and seizing a buffalo belonging to another village sacrifice it to the goddess Káli. The headman of the village whose buffalo is taken seldom interferes. If he does the women abusing him and threatening to shoot him almost always have their own way.

Community.

Among the Bhils are many tribes or clans, some of them claiming a Rajput descent and bearing such names as Makvána, Ráthod, and Parmár. Members of the different clans live in the same village and intermarry. Each clan has its own head or *tádvádi* distinct from the Government *patel*. In each clan disputes are settled by a *panchávat* or council of five Bhils. This council settles marriage disputes, punishes breaches of caste rules, and when the offender is penitent fixes the amount of the atonement fine. The parties interested

Chapter III. Population.

Bhils.

in the dispute entertain the members of the *panchâyat* with liquor. A man is put out of caste if he behaves improperly with the wife of a relation. But if a nephew has intercourse with his father's sister or a younger brother with his elder brother's wife, it is thought no sin. A man who has intercourse with his younger brother's wife is put out of caste. The other Bhils do not eat, drink, or smoke with him. If he begs for pardon some of the leading Bhils of his village call two or three men of a sect called Vasoya and cause him to give them a present of from 10*s.* to £1 (Rs. 5- Rs. 10). If the Vasoya allows him to drink or smoke with him the offender is let back into the caste. The Bhils have no games; drinking is their great amusement. They sometimes play a bamboo lute. But the chief musical instrument is the drum beaten at varying rates according as the occasion is sad or joyful. A string instrument of the *sitár* order made of half a gourd with a bamboo handle and a single wire string is also sometimes used. Though still careless and poor, the Bhils have made a considerable advance under the British Government. At the end of 1877 twenty-six of their boys were attending school.[1]

Náikdás.

Na'ikda's numbering 5966 souls are found only in the wildest parts of the Panch Mahâls and Rewa Kántha. Of their origin two stories are told. One that their ancestors were grooms to the Musalmán nobles and merchants of Chámpáner, who took to the woods on the decay of that city towards the close of the sixteenth century. The other states that they are descended from an escort sent by the Rája of Báglán to the Rája of Chámpáner. The Náikdás are generally small in stature, thin and wiry. They can endure a great deal of fatigue, are remarkably active, and are not wanting in courage. They are black in colour with dark eyes, square faces, and irregular features. Among both men and women the hair is worn rough and

House.

long. Their dwelling is a hut, the frame of rough timber, the walls of reeds and bamboo, generally plastered with cowdung and clay, the roof peaked and, except a few that are tiled, thatched with grass and dried teak or palm leaves. The house is divided into two parts, one for the cattle, the other for the family. In front is a platform where grass is stored and *mahuda* flowers and ears of Indian corn are laid to dry. The property of a Náikda family is small. Of farm stock, sometimes a few cattle and generally a goat or two and some fowls. Of field tools, a few have a plough, the rest only an axe and a hoe. Of house furniture, there is a rough stone hand mill, a long wooden pestle, and in the ground a small wood or stone mortar, and some clay pots. Except the chiefs and a few others in

Dress.

good circumstances who dress like Rajputs or Kolis, the men wear a few yards of dirty ragged cloth round the loins and a second cloth round the brow showing at the crown the disordered ruffled hair. The women wear over the shoulders a robe or *sádi* of a dark blue or red colour, a petticoat, and sometimes a bodice.

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[1] Most of the materials for the Bhil and Náikdá accounts have been obtained from W. B. Prescott, Esq., Superintendent of Police, Panch Mahâls, and Ráo Bahádur Nandshankar, Assistant Political Agent, Rewa Kántha.

Except tin and brass earrings the men wear no ornaments. The women wear tin earrings, necklaces of beads or shells, and brass bangles and armlets in shape and make, except that they wear only one instead of many tiers, much like those worn by Bhil women.

Náikdás.

Food.

Their chief food is Indian corn gruel; the well-to-do sometimes using coarse rice or the poorer panics. Except the ass, crow, and snake, few forms of flesh are forbidden the Náikda. They eat large black ants, squirrels, and even dead animals, and work such mischief among monkeys, or as they call them tree sheep, that even in large towns the sight of a Náikda is said to be enough to frighten off the monkeys. For months in each year, their stock of grain done, most of them live on wild fruits and roots. They are much given to *mahuda* spirits, and at their festivals drink to excess.

Occupation.

The Náikdás are labourers and wood-cutters. A few have bullocks and ploughs and till fixed fields. But with most theirs is only the rough wandering hill-side tillage, burning brushwood and among the ashes sowing the coarser panics. When the seed comes up, the Náikda raises in the middle of the clearing a rude platform on four posts and on this stays night and day watching the crop. Besides cultivating they gather the flower and berries of the *mahuda* tree, some medicinal roots and barks, gum, lac, honey, and wax. As wood-cutters they are either hired by forest officers or by large landholders, or oftener themselves cut timber and bring it for sale to Godhra and other markets. In almost every part of the work their women help them and they seldom leave the district in search of employment.

Character.

In 1818 when they first came under British authority, the Náikdás had the worst possible name for savage cruelty. In 1826 they were said[1] 'to exceed the Bhils in their predatory and lawless habits, in their cruelty, bloodthirstiness, and love of independence, and in the total disregard of all the customs and usages of social life.' Their chiefs used to organize forays, and engage Sidis and Makránis to help them. Numbers of cattle were collected and kept in the hills until ransomed. The proceeds of the raid were then distributed among all who had taken a part in it. In 1838 their depredations became so daring that a force had to be sent against them. For some years they were more orderly. But in 1854 they were still a peculiarly savage and predatory class living in the most remote and impervious forests. In 1868 the Náikdás were stirred up to rebellion by one of their holy men or *bhagats*. A force of over a thousand (1066) foot and horse with nine European officers[2] was sent against them. At the beginning of the campaign their leader, whom it was believed no bullet could harm, was fortunately shot, and the rising

[1] Bom. Gov. Sel. XXIII. 139, 152. 'May the Náikdás seize you' is still a common imprecation among bullock drivers.

[2] The details were: of foot, of the 26th Regiment N. I. three European officers and 250 men; of the 6th Regiment N. I. three European officers and 300 men; of the 13th Regiment N. I. three European officers and 191 men; of the Gujarát Bhil corps 69; of the Gáikwár's Arabs 100; and of the Lunávada Makránis 25. Of horse there were of the Poona Horse one Risáldár and ten troopers, of the Gáikwár's mounted police 100; and 31 of the Panch Mahals, Kaira, and Ahmedabad mounted police.

Chapter III. Population.

Náikdás.

was at an end. Since then the tribe has remained quiet and during the last two years (1875-1877) has been almost free from crime. Lazy, thriftless, and fond of drink, the Náikdás are poor, most of them sunk in debt. The yearly income of a Náikda family may be estimated at from £6 to £10 (Rs. 60-Rs. 100) and their monthly expenses at from 10*s.* to 14*s.* (Rs. 5-Rs. 7). Though they eat carrion and rank among the very lowest classes, their touch though avoided is not held to cause pollution. Except the Báriya Náikdás, they eat with Musalmáns but not with Dheds or Bhangiás. Náikdás show no respect to Bráhmans,[1] and care little for Bráhmanic rites, fasts, or feasts. Beyond, if they can afford it, giving a dinner in their honour they perform no ancestral or *shrádh* ceremonies. Except that they sometimes pour oil over Hanumán, and, though they are not allowed to enter her temple worship the mother or Máta on Pávágad hill and at other local fairs, the objects of their worship are spirits and ghosts. They show no respect for the Muhammadan religion and neither worship nor make offerings at Muhammadan shrines. In honour of spirits whom they invoke by various fantastic names, they fix teak posts in the ground, roughly hacking them at the top into something like a human face. Over these posts they smear cow's milk or red lead, and round them set rows of small clay horses. The ceremonies are conducted by Koli priests or *pujáris*, who while the worship is going on keep the Náikdás at a distance.

Religion.

Customs.

Marriage and death are among Náikdás the only occasions of ceremony. The age for marriage, both among boys and girls, is from eighteen to twenty. To arrange a marriage the boy's father goes to the father of the girl and asks him if he will give his daughter in marriage. If he agrees, the boy's father pays him from 4*s.* to 10*s.* (Rs. 2-Rs. 5) and leaves. He then, with some friends, bringing a rupee's worth of molasses comes back. He places some molasses in the girl's hand, laying on it a rupee, and a half or a quarter anna coin. Of the rest of the molasses half and sometimes the whole is given to the friends of the girl. The wedding day is fixed by the Náikdás after examining the stars. On the appointed day a booth of fresh leaves is built in front of the bride's house. In the afternoon with horns, drums, and cymbals, the bridegroom, with his parents and a number of relations and friends, comes to the bride's father's house. The boy's father pays the girl's father from £1 10*s.* to £5 (Rs. 15-Rs. 50), and the two families dine together, the bride's father furnishing liquor and the bridegroom's party bringing their own food. After dinner the bride and bridegroom are seated face to face in the square, or *chori*, in the centre of the booth, and by two old men, one from each family, called for the occasion priests or *pujáris*, have their hands joined and their skirts tied. Then a sheet is thrown over their heads, and the old men give them some balls of flour and molasses. When each has twice fed the other, the cloth is drawn away and the marriage is over.

[1] The common belief, says Mr. Nandshankar, is that they hold the killing of a Bráhman to be an act of merit. Referring to the feast on the thirteenth day after death their proverb says, by the death of one TILVAN or *tilu*, brow-mark, wearer, a hundred are fed.

Náikdás.

Then every one drinks as much liquor as he can, drums and cymbals strike up, and all ends in a dance, the men and women dancing by themselves. In many cases there is no ceremony of this kind. If a girl reaches the age of sixteen and her parents have not betrothed her, she may go and live with any man she chooses, and if he agrees to pay her parents from £1 12*s.* to £5 (Rs. 16-Rs. 50) no objection is raised. Again, if a woman deserts her husband and goes to live with another man he pays the husband from £1 12*s.* to £6 (Rs. 16-Rs. 60). If the husband agrees to give up his wife, he is paid nothing. A widow may marry again. On such occasions there is no ceremony. The husband presents her with a new petticoat, bodice, and robe. He comes to her house and takes her away with him. But this must be done at night, for it is the common belief that if a widow is married in the day time the village will be burnt down. A man may have at the same time more than one wife. The Náikdás do not intermarry with any other caste. But if a Koli woman lives with a Náikda, or a Koli with a Náikda woman, they are admitted into the Náikda caste. The Náikdás burn their dead usually at a place some distance from their village. The corpse, wrapped in cloth, is laid on a bamboo bier and carried by men of the tribe, or in a cart, to the burning ground. When the pyre is ready, it is kindled by the deceased's nearest male relation. Nine days after the burning of the body the nearest relations go to the burning place and gathering the ashes into a heap, place on it an earthen jar full of water. On their return home, the relations of the deceased shave their heads and faces. On the same day, the person who lighted the funeral pyre cooks rice at his house. Placing this on a plate made of four leaves of the *khákhra* or Butea frondosa tree, he pours a little butter over it, and then sets fire to it. Some more of the grain, laid on five leaf plates, is sprinkled with butter and given to children to eat. On the twelfth day, the family of the deceased make ready rice or panic, *kodra*, and Indian-corn gruel, with, if they can afford it, a little butter, and call those who were at the funeral, or if they are rich enough, they ask the whole village. The guests do not all meet at one time. They come when they like, and taking their share of the food either eat it on the spot or take it with them to their homes. Among the Náikdás authority and power is centred in four chiefs. Of these one lives at Sivrájpur in Hálol ; a second at Gondola in the Udepur state; a third at Ságtála in the Báriya state; and a fourth at Dandiápura under Jámbughoda. At a moment's notice these men could between them raise the whole tribe of Náikdás. Except for eating with a Dhed, Chamár, or Bhangi, a Náikda would not be put out of caste. In such a case he would not be re-admitted unless he gave a dinner to his caste-men. During the last fifty years the Náikdás have, as a class, made a great advance towards orderly habits. At Jámbughoda and at Ságtála in Báriya a few of them have, since 1869, sent their boys to school, and two sons of the saint, or *bhagat*, hanged in 1868 enlisted in the Gujarát Bhil corps in 1870 and are doing well.

Leather Workers.

Of workers in leather there were two classes, with a total strength of 3097 souls (males 1643, females 1454) or 1·37 per cent of the

Chapter III. Population.

total Hindu population. Of these 1160 (males 622, females 538) were Mochis, shoemakers, and 1937 (males 1021, females 916) were Khálpás, tanners.

Depressed Classes.

Besides the Khálpás there were three depressed classes, with a total strength of 7882 souls (males 4151, females 3731) or 3·49 per cent of the whole Hindu population. Of these 575 (males 293, females 282) were Garudás, priests to the Dheds; 4422 (males 2348, females 2074) Dheds, sweepers and carriers of dead animals; and 2885 (males 1510, females 1375) Bhangiás, scavengers.

Beggars.

Devotees and religious mendicants of various names, Brahmachárís, Vairágis, Gosáis, and Sádhus, numbered 941 (males 504, females 437) or 0·41 per cent of the entire Hindu population.

Musalmáns.

In its Musalmán inhabitants Panch Maháls stand the last of the British districts of Gujarát, with 14,921 souls or 6·19 per cent of the district population. Of their whole number 7213 were in 1872 returned as settled in the towns of Godhra, 4226 in Dohad, 1663 in Kálol, 1111 in Jhálod, and 708 in Hálol. Exclusive of 4537 females and 5325 children, in all 9862 or 66·09 per cent of the whole the male adult Musalmán population (5059) were in 1872 employed as follows: In Government or other public service 512; in professions 213; in personal service 553; in agriculture 1027; in trade 1024; in mechanical arts and manufactures 1563; and in miscellaneous callings 167. In addition to the four main divisions, Syeds, Shaikhs, Patháns and Moghals, numbering altogether 4621 souls or about one-third of the whole, there are several classes almost all of them descendants of converted Hindus. Of these the Ghánchis and Bohorás are the most important. The Ghánchis or oilmen known as Ghánchi Bohorás numbering 4461 souls and found chiefly in the Godhra sub-division were originally Hindus, probably of the Ghánchi caste. They claim to be the followers of a certain Mansur, and are said to abhor all other Musulmáns and to be well inclined towards Hindus. They had formerly the entire command of the carrying trade through the Panch Maháls, travelling east as far as Ratlám and Indor and west to Ahmedabad, Broach, and Surat. Since the opening of the Páli branch of the Bombay and Baroda railway they go no further than between Central India and Páli. The change has interfered greatly with their former occupation. Near Godhra several of the Ghánchis have begun to settle down as cultivators. The Shia Bohorás number 3126 souls, 2343 of them of the Dáudi and 783 of the Sulemáni sects. They live in towns and carry on a large trade in grain and other articles. As a class they are well-to-do.

Pársis.

Of the total Párs population of seventeen souls, eight were settled in the Godhra sub-division, two in Dohad, four in Kálol, and three in Hálol. Exclusive of five women and one child, the adult male population were employed in 1872 as clerks in Government offices and engaged in liquor and other trades.

Christians.

Of the twenty-four Christians, six were European officers and most of the rest their servants.

Chapter III. Population. Dwellings.

With the exception of the people of two towns numbering 22,107 souls or 9·18 per cent of the entire inhabitants, the population of the district, according to the census returns of 1872, lived in 661 villages with an average of 329·76 souls per village. Only Vejalpur in the Godhra sub-division is walled. A Koli village generally consists of a single street or road between two rows of mud huts. The line of houses is often broken by a yard for cattle or for grain or perhaps by a well. At one end of the village is in most cases an old tamarind or mango tree, its stem surrounded by a small stone and earth platform where the village council meets, matters of common interest are talked over, and disputes settled by the headman. The poorer Kolis and almost all Bhils and Náikdás do not live in villages. Each has a separate dwelling and in many parts of the district they move from place to place. Of the whole number of villages 324 had less than 200 inhabitants;[1] 220 from 200 to 500; eighty-five from 500 to 1000; twenty-four from 1000 to 2000; six from 2000 to 3000; and two from 3000 to 5000. As regards the number of houses there was in 1872 a total of 56,922, or on an average 32·88 houses to the square mile. Of the total number, 7482 houses lodging 22,427 persons or 9·32 per cent of the entire population at the rate of three souls to each house, were buildings with walls of fire-baked bricks and roofs of tile. The remaining 49,440 houses accommodating 218,316 persons or 90·68 per cent, with a population per house of 4·42 souls, included all buildings with thatch or leaves or whose outer walls were of mud.

Communities.

The village establishment generally includes the village headman, *patel*; the village accountant, *taláti*; the watchmen, *rávaniás*; and the messenger, *haváldár*. The artisans, who are paid by the villagers in kind, live in towns and large villages. Most of the village headmen are Kolis, Bhils, and Náikdás. The rest are generally Kanbis, Rajputs, Pateliyás, or Lubánás. The watchmen, *rávaniás*, are chiefly Bhils and Náikdás. The headmen are held in much respect. At all village religious ceremonies and on betrothal, marriage, and death celebrations, their presence is desired and they are given places of special honour.

Migration.

At the time of transfer (1853) the district was in great want of people. Some account is given below of the efforts from time to time made by Government and the officers in charge of the district to draw settlers from the crowded parts of central Gujarát. The great increase in the population shows that to some extent these efforts have succeeded. But up to 1877 all attempts to colonize on a large scale failed. In that year a movement took place among some of the lower class cultivators of central Gujarát of special interest, not only because it was spontaneous and widespread, but because in spite of very great difficulty both in the character of the settlers and of their first seasons in the Panch Mahals, it has to some extent

[1] In different parts of the Dohad sub-division extensive foundations mark the sites of many large villages destroyed according to the local belief by shocks of earthquake. Dohad Survey Report, 1877.

Chapter III. Population. Migration.

proved a success. In March 1877 the Hálol police reported[1] that over a thousand Taláviás, a low class tribe of central Gujarát apparently the same as the Surat Dublás, were encamped close to mount Pávágad. They had with them their wives, children, cattle, and some store of grain, and said they were come to settle. After the first detachment hundreds of families kept pouring in, each with a cart or rough bullock sledge piled high with grindstones, bunches of fowls, clothes, cooking pots, and children. Behind came the father of the family loaded, and then the mother and elder children also carrying burdens and driving before them their small stock of goats and cows. Their answers were always the same. Who are you?—Taláviás. Where are you going?—To Máta. What for?—To cultivate. Where have you come from?—There; with a long drawl and backward wave of the hand. Why did you leave ?—There was no land, the people with money turned us out of our fields. A few more questions, and they would give the name of the district and village they came from, ending with the refrain 'many more of us are on the way.' On reaching Pávágad the first care of each family was to worship at the hill-top shrine of the Máta or mother. For days, in an almost unbroken stream, the worshippers kept passing up and down, returning with their brows smeared with the red mark of the goddess. Camps were formed each with its headman or *patel*; the people from the different districts choosing to camp by themselves. When their camp was fixed, each family raised a rough hut and cattle shed and buried their supplies of grain in the ground. Some of the old wells, relics of Chámpáner's greatness, were cleared out and yielded good water. This movement was due to a religious teacher or *guru* who had been ordered by the goddess Kálka Máta and a Musalmán saint to tell the people that if they went back to their old Chámpáner home they would find riches and plenty; if they refused to go they would die. As a token of her favour the goddess promised on the night of the March full moon to set fire to their offering of butter and rice and to send a Bráhman to tell them what they should do. On the 22nd, the night of the full moon, 7000 of the Taláviás went up the hill, each carrying something to swell the general offering. All made ready and duly laid before the 'Mother,' the worshippers waited watching till dawn to see their offering take fire. But no fire came, no Bráhman and no voice from the goddess. At last tired out they set fire to their offering and left convinced that the work had not the mother's favour. Most of them went back to their old homes. Of 1867 families only 685 with ten carts, fifty-seven ploughs, 133 bullocks, and about 250 cows and goats remained. Except a few who chose sites a couple of miles off, they settled close to Pávágad, forming twelve hamlets, the houses built in square groups, not each by itself like those of the Panch Mahál Bhils and Náikdás. During the hot weather months they earned a living chiefly by selling firewood in the villages near, and by some Government aid in the shape of roadmaking and pond clearing. With this and the help of money advances, they were able before the rainy season to finish their houses, to buy

[1] Contributed by W. B. Prescott, Esq., District Superintendent of Police.

about 900 head of cattle, and to sow about 798 acres (1359 *bighás*) of land. But the failure of the rains (June-October 1877) pressed them hard. Many went to their old homes. The rest, without skill or habits of steady work, seem by degrees to be falling back to their former position of labourers. As a colony the movement has not been a great success. But it is not without good results. An area of 675 acres (1150 *bighás*) has been cleared for cultivation and may tempt settlers from among the Kanbis, Bohorás, and other high class Gujarát peasants of whose skilled and prudent labour the Panch Maháls stand in much need. Another class of recent settlers are low caste Márvádis, who leaving Márvád during the famine of 1869, have fixed their homes in the Panch Maháls. Chiefly day labourers, most of them are to be found in the east of the district. Besides these permanent settlers, road-making and other public works attract labour. The workers, chiefly Dheds from Kaira and from Márvád, stay during the hot and cold seasons and go away in the rains.

Of the people of the district three classes leave their villages in search of a living. A few Musalmáns seek military service in native states, Bráhmans, leaving their families behind, go long begging tours remaining away two or three years at a time, and among the labouring classes Bhils at the beginning of March find work in collecting poppy juice in the Málwa opium fields.

CHAPTER IV.

AGRICULTURE.

Chapter IV. Agriculture.

AGRICULTURE supports 173,819 persons or 72·20 per cent of the entire population.[1]

Soil.

Within the limits of the district are great varieties of soil. In the north-west of Godhra near the Mahi is some alluvial, *bhátha*, land, south of this a belt of dull black, *mál*, such as is found in Thásra, and beyond that a very large tract of light, *gorádu*, land. To the north and north-east of Godhra a rich medium black, *besar*, bears heavy crops of wheat and gram. Kálol except a few villages of dark clayey medium black, *besar*, well suited to rice, *kodra*, and other coarser grains, is throughout light, *gorádu*. In the south of Hálol are stretches of rich but badly tilled black soil. Except stony hill-ridges and patches of shallow gritty red and dry black, the soil of the eastern division, both light and black, is, perhaps from the abundance of water, of very high quality. The light, varying in shade from fawn to reddish brown yields two, and if watered, three crops a year.

Arable Area.

The Government or *khálsa* villages of the district contain 514,052 acres, of which 56,589 acres or 11 per cent are alienated, paying only a quitrent, and 33,805 acres or 6·57 per cent are unarable waste. The total area of Government arable land is therefore 423,658 acres, of which 151,194 acres or 35·68 per cent are occupied, and 272,464 or 64·31 per cent are unoccupied. Of these 272,464 acres of unoccupied arable land, 23,418 acres including grazing lands, forests, and homesteads cannot be taken up for cultivation. The whole available area of unoccupied arable land is therefore reduced to 249,046 acres. Of the occupied area 3064 acres or 2·02 per cent are garden land, 8447 or 5·58 per cent unwatered rice land, and 139,683 or 92·38 per cent dry crop land.

Irrigation.

Fields are watered from rivers, ponds, and wells. From rivers the water is drawn by means of rough wooden lever-lifts, *dhekudis*,

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[1] This total (173,819) is made up of the following items :

(1) Adult males engaged in agriculture as per census of 1872.....	54,566
(2) Wives of ditto calculated on the basis of the proportion the total adult female population of the district bears to the total adult male population	49,229
(3) Children of 1 and 2 calculated on a similar basis.....	70,024
Total ...	173,819

This calculation is necessary, because the census returns including many of the women under VII. (Miscellaneous) show a total of only 473 under the special head adult agricultural females.

costing only a few shillings (Rs. 3-4) to set up. Except at the Maláv reservoir where are gravitation gates, the system of watering from ponds is the same as from rivers. As springs are found close to the surface, wells have not to be sunk more than from fifteen to thirty feet. A built, *pakka*, well with water enough for a single leather bag costs to make from £20 to £30 (Rs. 200-Rs. 300).

Plough of Land.

A plough of land varies greatly according to circumstances. When the pay of village headmen was reckoned in land a plough was generally taken at about $11\frac{1}{2}$ acres, 20 *bighás*, supposed to be the largest area of medium soil that a pair of strong Charotar bullocks could properly plough. Under these conditions of soil and ploughing Kanbis with specially fine cattle are said to till fifteen acres; Vanjárás with well-fed local, *pál*, cattle seven acres, and Kolis with badly kept cattle five acres. But in most places as the soil is scratched and not ploughed a pair of bullocks can run over a much larger area. In the two assessed sub-divisions the survey returns shew for each pair of bullocks, in Kálol an average area of $10\frac{33}{40}$ acres and in Godhra of $13\frac{7}{40}$.

Holdings.

In Godhra and Kálol, the settled parts of the district, the total tilled area is parcelled into 13,443 holdings, *khátás*. These farms of which the largest is $116\frac{39}{40}$ acres, and the smallest one acre, contain on an average $10\frac{1}{2}$ acres. It is believed that with a five-acre farm a husbandman, though scrimped, will not want for food or clothing; that a seven-acre light soil farm, even though unwatered, will keep him in fair comfort, and that from a ten-acre light soil farm he will, if thrifty, be able to save. In 1876-77, including alienated lands, the total number of holdings was 25,308 with an average area of eight acres. Of the whole number, 13,373, or more than one-half were holdings of not more than five acres; 6355 of not more than ten acres; 3969 of not more than twenty acres; 1451 of not more than fifty acres; 110 of not more than 100 acres, and fifty above 100 acres. Most of the holdings of 100 acres and upwards are in the hands of the class of superior landlords known as *tálukdárs*.

Stock.

During the twenty years ending 1877 ploughs have increased from 18,303 to 37,141 or 102·92 per cent; carts from 6129 to 8349 or 36·22 per cent; and live-stock from 173,859 to 254,262 or 46·24 per cent.

Panch Maháls Stock, 1857-1877.

Year.	Ploughs.	Carts.	Live-Stock							
			Oxen.	Cows.	Buffaloes.	Horses.	Sheep and Goats.	Camels.	Asses.	Total.
1856-57	18,303	6129	55,068	70,255	28,651	1809	17,096	42	938	173,859
1876-77	37,141	8349	86,024	90,928	37,672	3488	34,030	419	1701	254,262
Increase per cent in 1876-77.	102·92	36·22	56·21	29·42	31·48	92·05	99·05	897 62	81·34	46·24

In the villages inhabited by the better class of cultivators, Kanbis, Talabda Kolis, Pateliyás, and Ghánchis, light soils are manured

Chapter IV. Agriculture. Tillage.

ploughed twice or thrice, sown through a drill, and a fortnight after cleaned with a weeder, *karab*, and smoothed by a log of wood, *samar*. In other parts of the district, the system of husbandry is of the roughest and most primitive kind. Though they do not use dung for fuel the people seldom manure their lands; fallows are kept only to a small extent, and land is seldom watered. Few of the Dohad Bhils have any field tools except one plough and even this many have to borrow. They merely run the plough once lightly through the surface of the field and immediately afterwards sow the seed. They show neither care nor thrift and leave all to nature. In the Nárukot state many of the Náikdás sow their grain among wood ashes. Of this practice there are two forms, one locally called *bantio* consists of burning down a tract of brushwood and without any tillage sowing seed among the ashes; the other called *válra* is to cut down branches and brushwood and heaping them in one place to set fire to them and sow after loosening the surface with a pickaxe. *Banti*, Eleusine coracana, growing during the rains, is almost the only grain raised by Náikdás.

Crops.

Of 151,194 acres the total area of occupied land 40,152 acres or 26·65 per cent were in the year 1877-78 fallow or under grass. Of the 111,042 acres[1] under cultivation grain crops occupied 94,478 acres or 84·9 per cent, 36,629 of them under maize, *makái*, Zea mays; 20,022 under *bájri*, Penicillaria spicata; 15,052 under rice, *dángar*, Oryza sativa; 9566 under *nágli*, Eleusine corocana; 6771 under *kodra*, Paspalum scrobiculatum; 2964 under *juvár*, Sorghum vulgare; 513 under wheat, *ghau*, Triticum æstivum; 314 under *chenna*, Panicum miliaceum; 138 under barley, *jav*, Hordeum hexastichon; and 2509 under other cereals of which details are not available. Pulses occupied 27,752 acres or 24·9 per cent, 19,967 of them under gram, *chana*, Cicer arietinum; 2607 under *adad*, Phaseolus mungo; 1935 under *mag*, Phaseolus radiatus; 1440 under *tuver*, Cajanus indicus; 312 under peas, *vatána*, Pisum sativum, and 1491 under other pulses. Oil seeds occupied 4519 acres or 4·06 per cent, 3725 of them under gingelly oilseed, *tal*, Sesamum indicum; 40 under rape seed, *sarsav*, Brassica napus; and 754 under mustard, *rái*, Sinapis racemosa, and other oilseeds. Fibres occupied 929 acres, 897 of them under Bombay hemp, *san*, Crotalaria juncea, and 32 under cotton, *kapás*, Gossypium herbaceum. Miscellaneous crops occupied 530 acres, 143 of them under sugarcane, *serdi*, Saccharum officinarum; 34 under tobacco, *tambáku*, Nicotiana tabacum; 4 under poppy, *khaskhas*, Papaver somniferum; and 349 under miscellaneous vegetables and fruits.

Maize.

Among the district crops Maize, *makái*, Zea mays, the staple food of the Panch Mahál people holds the first place, with, in 1877-78, 36,629 acres or 32·98 per cent of the whole tillage area. Maize is one of the chief products of the Dohad sub-division forming, in the rich lands that yield twice a year, the rainy season or early crop sown in June and reaped in September in time to make the ground ready for a cold season crop of wheat or gram.

[1] Of 111,042 acres 17,166 were twice cropped.

Crops.

Millet, *bájri*, Penicillaria spicata, holds the second place, with 20,022 acres or 18·03 per cent. It is cultivated chiefly in the western sub-divisions of Godhra and Kálol.

Rice.

Rice, *dángar*, Oryza sativa, holds the third place, with 15,052 acres or 13·55 per cent. It is cultivated in all the sub-divisions. Very little is watered and none but *sáthi*, *sutarsál*, and other inferior and coarse kinds are grown. In embanked fields the seed is sown in a nursery and the plants put out. In open fields the seed is sown broadcast, a lazy careless tillage adopted by low class cultivators. Embanked fields yield rice year after year. But no second crop is ever raised from them. *Nágli*, Eleusine coracana, *kodra*, Paspalum scrobiculatum, and *juvár*, Sorghum vulgare, are grown in the western sub-divisions. The ordinary Koli tillage of these grains is unskilled and unthrifty. The ground is scraped once with the plough and after sowing is left unweeded and uncared for till harvest time, and then left waste generally for two or three years. Before the introduction of the revenue survey, fields paid rent only when cropped. But now with a lower rate levied every year, some change in the system of tillage will probably be required.

Wheat.

Wheat, *ghau*, Triticum æstivum, with, in 1876-77, 8553 acres is in the eastern division a leading and increasing product. Five varieties are grown, *dáudkháni* white brown very clear and full; *kátha málvi*, not so full as *dáudkháni*, with a mixture of inferior reddish wheat; *kátha dáudi*, thin hard and not full, a mixture of white brown and reddish grain; *vájia* the worst kind, dull brown with very small but soft grain, and *gomadia*, a low class *dáudkháni*, of dull white brown with thin and shrivelled grain. Wheat is grown in stiff black loam and to a less extent in medium black, *besar*, soil. It is usually sown as a second crop following rice or maize. The sowing is in November and December. Before sowing the land is ploughed, and when levelled by the clod crusher, the seed is sown at the rate of from forty to eighty pounds the acre in drills about one foot apart. Manure is seldom used. Panch Mahals wheat is sent to central and western Gujarát, Baroda, and the surrounding native states.

Sugarcane.

Sugarcane, *serdi*, Saccharum officinarum, is grown in small quantities in Godhra and Kálol. It is neither so rich in juice nor of so high a quality as Kaira sugarcane. Quantities of molasses were at one time exported. But prices fell and as the former Government refused to reduce the rates of assessment the culture of sugarcane ceased.[1] After the transfer its cultivation again spread, favoured by a local custom of allowing the hereditary officers, *desáis* and *patels*, 6¼ per cent of the revenue derived from sugarcane. In 1864 on the ground that it might lead the officers in question to force sugarcane cultivation, this grant was stopped,[2] and since then sugarcane has again declined.

Poppy.

The Poppy, *khaskhas*, Papaver somniferum, used to a small extent to be grown in Dohad and Jhálod by Mális, Bhils, and Kanbis. A

[1] Major Wallace 71, 12th September 1856.

[2] Gov. Res. 2728, 19th July 1864.

Chapter IV. Agriculture.

Crops.

Poppy.

cold weather crop wanting good soil and much water, it was chiefly grown along the banks of streams many of which used to be gay with belts of its white or white and red flowers. In growing the poppy a field of black soil, from which during the rainy season maize or hemp had been reaped, was generally chosen. Soon after *diváli*, November-December, the land was four or five times ploughed, divided into squares, manured, and sown with poppy seed, *khaskhas*. After sowing, the field was for three months watered once a fortnight. The plant was then full grown, watering was stopped, and after a fortnight the outer skin of the flower capsule was slit and next morning the juice that had oozed out was scraped with a knife into a brass pot. The slitting and juice-gathering, a slow and hard task, were thrice repeated. After gathering it, the juice was mixed with oil at the rate of a quarter of a pound of oil to one pound of juice. In this state it was kept by the grower till it hardened and was then sold in the market. The buyers, rolling it into balls, sold some of it locally and sent the rest to Baroda and Bombay. The poppy was never a favourite crop. The law (Act I. of 1878) forbidding its growth has caused little hardship.

Pulse.

Of Pulses, Gram, *chana*, Cicer arietinum, a favourite second or cold weather crop in the well watered Dohad valleys, is exported in considerable quantities.

Oil Seeds.

Of Oil Seeds, *tal*, Sesamum indicum, is largely grown, the area 10,044 acres in 1876-77 being greater than in Kaira. Large quantities of oil are extracted and exported to Málwa and to central and western Gujarát. Oil pressed from *doli* or *mahuda* seed is sent in considerable quantities to Kapadvanj and there used in the manufacture of soap.

Hemp.

Bombay Hemp, *san*, Crotalaria juncea, with in 1877-78 an area of 897 acres, is by all classes of husbandmen grown both in black and light, but chiefly in black soil. It is a rainy season, *kharif*, crop sown on the first fall of rain. At the end of three months the seed ripens and the heads are cut off. Then the plants are cut, tied in bundles, and for a week or so left to rot in some pond or river. When they are taken out the fibres are separated and made into coils. Some of it is used locally, either woven by Vanjárás into pack saddles or by cultivators made into ropes. Most of the rest goes to Bombay.

Besides chillies, onions, and other garden produce raised in river-bank fields, Potatoes, *batáta*, have of late years been very successfully grown.

Cultivators.

Kolis, Bhils, and Náikdás form the bulk of the agricultural population. Of the higher classes of cultivators the few Kanbis are skilful and thrifty, and in most parts of the district there are local, *talabda*, Kolis, Mális, and Rajputs below Kanbis in knowledge but still a valuable peasantry. In Dohad are Pateliyás, Lubánás, and Rávals, all superior to the lazy and unthrifty *mehvás* Koli and Bhil. Some Vanjárás and Musalmáns of the Ghánchi class, thrown out of their former occupation of carrying have taken to tillage. As yet they have met with little success.

The crops occasionally suffer from mildew and insects. In 1845 most of the maize was eaten by locusts. Except a few villages on the Mahi the district is free from damage by floods. But the rainfall is uncertain and during the last twenty years the failure of crops from want of rain has on six occasions caused scarcity and distress. In 1853 no rain fell after July and all the chief crops failed. In 1856 the western sub-divisions suffered seriously from the complete failure of the latter rain. In 1857 the rains were very late of beginning, causing loss of crops in the eastern division. In 1861 and again in 1864 the rainfall was irregular and scanty. Finally in 1877 there were only 19·10 inches, less than half of the average rain supply. The crops failed and sickness and want were so widespread that towards the close of the season (April-June) special relief measures were found necessary.

CHAPTER V.

CAPITAL.

Chapter V. Capital.

According to the 1872 census returns there were in that year, besides well-to-do cultivators and professional men, 1697 persons in positions implying the possession of capital. Of these 423 were bankers, money changers, and shopkeepers, and 1274 were merchants and traders. Under the 1869-70 income-tax returns 450 persons paid on yearly incomes of from £50 to £100 (Rs. 500 - Rs. 1000); and in 1872-73, 101 persons paid on incomes of from £100 to £200 (Rs. 1000 - Rs. 2000) and fifteen on incomes of from £200 to £1000 (Rs. 2000 - Rs. 10,000). Unlike other Gujarát districts the Panch Mahál are so poor and backward that there is little capital and few savings pressing for investment. Only by Government servants are Government securities bought or money laid up in savings banks. Except the holding of a poor debtor with no other property, land is seldom bought, the yearly return being only from 2¼ to 3 per cent instead of the 20 or 30 per cent the money might yield if lent at interest.

Money-lenders.

The local money-lenders are Vániás, Bráhmans, and Bohorás. Seven or eight of them are men of wealth, bankers who give bills, *hundis*, on Baroda, Bombay, Indor, and Ratlám. Of village money-lenders Vániás are the chief, though well-to-do Kanbis also lend money and advance grain. A few of these Kanbis who are rich are thought more liberal creditors than the Vániás. Of the whole body of money-lenders about ten per cent are supposed to deal with townspeople only; about sixty per cent with Kolis, Bhils, and the poorer class of cultivators, and about thirty per cent both with the poor and the well-to-do.

Bankers, *párakhs*, keep the following account books, the cash book, *rojmel*; the ledger, *khátávahi*; the monthly account book, *ávaro*, and the interest book, *vyájvahi*. Those who deal with Kolis and low class borrowers keep an account current book, *thámkháta*. Those who are shopkeepers as well as money-lenders keep in addition to the first four books an account current book, *thámkháta*. In this are entered the amounts advanced, the sums recovered and the articles sold sometimes with, sometimes without their value. The register book, *nondh*, generally kept by petty grain, spice, and cloth dealers is in memorandum form. As a rule it has only the debit, *udhár*, side, receipts being entered below the articles sold or the sums advanced. Debts are paid in grain or cattle, seldom in money. Creditors almost never write off claims as bad debts. However faint the chance of payment

the account is kept open and the bond renewed every third year in the hope that a day may come when the debtor will be able to pay. The amount of grain advanced either for seed or food depends on the borrower's position. It seldom goes beyond 480 pounds, one *mani*, for seed, and 1440 pounds, three *manis*, for food. The grain is after six months repaid in kind sometimes a quarter, but generally half as much again as the original amount advanced.

Borrowers.

In a district so poor and so entirely agricultural the borrowers are chiefly cultivators most of them belonging to the unsettled classes, low Kolis, Bhils, and Náikdás. As a rule most careless and ill informed, they seldom know how the debt began, when and what they have paid, or how much is still due. Most of the poorer class of cultivators are almost entirely dependent on the money-lender. The greater part of their crops when ripe goes to pay off their debts. Left with too small a store of grain to last them throughout the year they are from time to time forced to borrow. As a rule borrowers deal with only one money-lender. When they borrow from more than one the creditor who has advanced money to pay their rent, or has advanced grain for seed or food has the preference and is considered to have the right to attach the crop. When a civil action is brought against a Koli or a man of the other poorer classes he generally admits the claim. The debtor's property is seldom sold except when he is thought to be likely to dispose of it privately. When, in consequence of a civil court decree, immovable property is sold it is generally bought by the creditor at a nominal price. Though still so poor and backward these tribes have made some advance under British management, seldom having recourse to the robbery and murder so common under the former Government.

Interest.

In the case of Bhils the civil courts do not enforce a higher rate of interest than six per cent. Practically this limit has little effect, the actual rates being indefinitely increased by a system of premiums. Náikdás and other unsettled tribes have no credit beyond an advance on the security of their crops. Interest is charged by the lunar month at rates corresponding to yearly rates of from nine to twelve per cent to an artisan with good credit; twelve per cent to a cultivator in middling circumstances, and from twelve to fifteen per cent to a poor cultivator. On a debt unpaid at the end of the year compound interest at the rate of twenty-five per cent on capital and interest is charged. In opening accounts with petty traders and artisans the banker makes besides interest two or three per cent profit as premium.

Currency.

At the time of their transfer, the Panch Mahâls had a local currency both of silver and copper coins made in the Dohad mint. Besides the regular mint-profits it was then the practice to farm the right of calling in and changing the copper currency twice a year. Except putting a fresh mark to it nothing was done to the coin. But the fees charged for stamping yielded a yearly revenue of about £110 (Rs. 1100).[1] In 1861 owing to the expected introduction of British copper coins the value of the local pieces became greatly depreciated

[1] Major Buckle 606, 7th November 1861.

Chapter V. Capital.

Currency.

and their coinage was stopped. The Dohad rupee ceased to be legal tender in 1858 and soon after disappeared. The Baroda, *bábáshái*, rupee was then the only coin in use and only by degrees was the British rupee raised to be the standard. In 1861 all contracts for spirits and drugs, and in the year following the land revenue, were declared payable in Imperial rupees with the provision that for three years the Baroda coin would be taken at the assay rate of exchange.[1] Still the use of the British coin is almost entirely confined to the payment of Imperial dues, the Baroda rupee being the ordinary medium in private dealings. The intrinsic and legal value of the Baroda rupee is about fourteen per cent below that of the Imperial coin. But from its worn and injured state its trade value is from eighteen to twenty-two per cent less than the Imperial rupee. Its value varies considerably at different times of the year. It is unusually depressed when Imperial rupees are in demand for the payment of rents and abnormally high at the harvest time, *Máh* (February) and *Vaisháhh* (May). Counterfeit Baroda coins are common and at the time of exchange each is carefully tested by a Vánia assayer, *párakh*.

Land Mortgage.

Except in the case of service holdings the practice of mortgaging land is not common. According to the registration returns mortgages in excess of £10 (Rs. 100) have risen from 93 of the value of £3479 (Rs. 34,790) in 1869-70, to 151 of the value of £6074 (Rs. 60,740) in 1876-77.

Wages.

Carpenters and bricklayers are found in towns and large villages. Not always employed, their daily wages are high, varying from 1*s.* to 1*s.* 3*d.* (8-10 *annas*) and as a class they are well-to-do. The wages of ordinary day labourers are (1878) for a man from 3¾*d.* to 5¼*d.* (2½-3½ *annas*); for a woman from 2¼*d.* to 3*d.* (1½ - 2 *annas*), and for a boy or girl from 1*d.* to 1½*d.* (¾ - 1 *anna*). Twenty-five years ago the daily wage of unskilled labour was for a man 3¾*d.* (2½ *annas*); for a woman 3*d.* (2 *annas*), and for a boy or girl 2*d.* (1¼ *annas*). Except by cultivators who pay either wholly or partly in kind these wages are paid daily in cash. The labouring classes are Márvádis, Kolis, and Bhils. Musalmáns also of the Ghánchi class, carriers by trade, in the rainy months when traffic is at a standstill, go in bands to the fields to work. These Ghánchis are not properly labourers being a superior class, many of them well-to-do and almost all with good personal credit. Except for field work the only regular day labourers are Márvádis, a frugal and hardworking set of men. In the fair season large public works attract Dheds and other labourers from central Gujarát. Bhils and Kolis work in the fields but they dislike and are unsuited to steady hard labour and are seldom employed in road making or other large undertakings. The actual work of cultivation does not give rise to any great demand for labour. The few rich cultivators employ workmen during the whole rains. But as a rule except at harvest time there is no general demand. The greater part of the work done by Bhils, Náikdás, and other unsettled tribes is forest work; in the cold season, grass and firewood-cutting and in the hot months, timber-felling and *mahuda*-gathering. Among the

[1] Gov. Res. 1485, 14th April 1862.

labouring classes women do as much work as men. The greater part of the unskilled labour in public works is generally done by women. During the last ten years the demand for and the wages of unskilled labour have considerably declined, and though at the same time the price of food and clothes has fallen, the state of the labouring classes is probably on the whole not so good as it was during the prosperous years of the American war. The Ghánchis, Márvádis, and Dheds are a thrifty and frugal people, saving money when they find good employment. But the Bhils and Náikdás lay by nothing, spending as they make in liquor and other personal indulgence. Mortgage of labour is unknown in the Panch Maháls. In some Musalmán houses in Godhra and Dohad the descendants of household slaves still hold a position of dependence, choosing though in no way forced to do so to work for the family who formerly owned them.

Field produce prices are available only for the sixteen years ending 1878. During these years rice has varied from ten pounds for 2*s.* (Re. 1) in 1865 to thirty in 1873 and averaged nineteen pounds; wheat has varied from eleven pounds in 1865 to twenty-eight in 1876 and averaged eighteen pounds; millet, *bájri*, has varied from sixteen pounds in 1864 to fifty-four in 1875 and averaged thirty pounds; gram has varied from sixteen pounds in 1865 to fifty-eight pounds in 1876 and averaged thirty-one pounds; pulse, *dál*, has varied from nine pounds in 1865 to thirty-eight pounds in 1876 and averaged eighteen pounds; and maize has varied from twenty-one pounds in 1865 to fifty-nine in 1876 and averaged thirty-nine. This period began with a most marked rise. In 1864 and 1865 prices stood very high; then during the next seven years (1866-1872) came a constant though moderate fall, followed by four years (1873-1876) of cheap but steady rates, ending by a moderate rise in 1877 and by extremely high prices in 1878. The following statement shows for the chief grains the price in pounds for two shillings during the sixteen years ending 1878:

Panch Maháls Produce Prices, 1863-1878.

Product.	Year.															
	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.
Rice, common	22	12	10	15	16	16	15	18	16	17	30	30	30	30	26	12
Wheat	19	14	11	11	12	12	13	14	19	25	23	20	26	28	25	17
Millet, *bájri*	26	16	20	31	25	28	22	26	27	32	40	48	54	46	36	17
Gram	29	25	16	23	28	34	22	27	40	36	38	43	42	58	48	18
Pulse, *tuver dál*	16	10	9	14	18	20	14	15	18	16	18	20	26	38	26	13
Maize	49	29	21	47	41	43	29	34	40	42	48	56	51	59	36	17

The details of weights and measures given at page 65 of the Kaira Statistical Account apply to the Panch Maháls.

[1] The figures for the ten years ending 1872, taken from the Godhra survey report, refer to that sub-division only; those for the six years ending 1878, taken from the yearly administration reports, represent the average prices of the district.

CHAPTER VI.

TRADE.[1]

Chapter VI. Trade.

Roads.

DURING the last twelve years (1867-1878) by the help of cheap stone metal, and liberal public works grants, aided by local funds, tolls, special funds, and duties, much has been done towards supplying the main lines of traffic with well made roads. The most important trade route lies east and west, connecting Gujarát with Central India and Rajputána. This line formerly ended westwards in Baroda, but since the opening in 1874 of the branch railway to Páli, traffic has been turned to that station. Beginning at Páli, bridged but so far only partially metalled, the road runs east sixteen miles to Godhra; from Godhra, metalled and except the Pánam river bridged throughout, with an eight mile branch to the town of Báriya, it runs east to Dohad forty-four miles, twenty-one of them in Báriya territory. Besides this main line there is in the western division a banked and bridged but unmetalled road from Godhra south-west twenty-one miles through Kálol to Khákharia on the Baroda boundary. In the south a branch twenty-five miles long begins near Kálol and runs by Hálol to Jámbughoda. This is a fair weather track and there are similar lines from Godhra fourteen miles north by Sehera to the Lunávada boundary. There is also from Kantdi a branch fifteen miles north-east to join the Godhra and Lunávada road, used chiefly by traffic between Páli and Lunávada and Sunth. Another cleared track runs north thirty miles, twenty of them in British territory from Sália, twelve miles from Godhra, on the Godhra and Dohad road to Sunth. An unimproved track runs from Godhra north-east to Limdi and Jhálod. This formerly carried a large traffic, but since the Godhra and Dohad road has been finished it has almost ceased to be used. In the eastern division a bridged and metalled road is under construction from Jhálod by Limdi to the Báriya boundary fourteen miles, and this is being continued eleven miles further in Báriya to join the Godhra and Dohad road east of the Harap river. The distance from Godhra to Jhálod along this route is fifty miles. A partially improved track also runs south from Limdi to Dohad fourteen miles, the total from Jhálod to Dohad being twenty miles. These, stretching over a total distance of 170 miles, are the only made or partially made roads and they include all the chief traffic routes. Other less important lines are provided with rough cart tracks.

Bridges.

The chief bridge is across the Karad river near Kálol on the Godhra and Khákharia road. It has three seventy-six feet openings

[1] The trade section is contributed by T. D. Little, Esquire, Executive Engineer Panch Mahals.

spanned by wrought iron girders carried on stone masonry piers. On the Godhra and Dohad road over the Ghodákhal river near Dohad is a bridge with three fifty feet arches, and there are many other small bridges. The Pánam river on the Godhra and Dohad road eleven miles east of Godhra is crossed by a low level or Irish bridge of concrete.

Rest-houses.

There are no buildings for the accommodation of district officers. Of rest-houses, *dharmsháls*, suited for native travellers there are in all twenty-three. Of these ten are situated in the Godhra sub-division, seven in Kálol, and six in Dohad. Of those in Godhra seven are at the town of Godhra; one at the village of Sehera on the high road from Godhra to Lunávada; one at Tua on the high road from Godhra to Páli; and one at Urváda on the high road from Godhra to Dohad. Of the Kálol rest-houses, one is at Kálol, three at Hálol, one within the town and two on the road from Kálol to Jámbughoda, and one at each of the three villages of Champáner, Maláv and Kanjri. Of the Dohad rest-houses, three are at Dohad, one outside the town near the lake, and two on the high road from Godhra to Dohad, two are at Jhálod, and one at Garháru. Besides these the district is provided with a traveller's bungalow at Kálol on the road from Godhra to Baroda. This last is the only building suited for European travellers.

Ferries.

There are no permanent ferries in the Panch Mahals. During the rainy season a boat plies between Gotra and Páli on the Mahi. It is maintained from the Panch Mahals and Kaira local funds, the proceeds being divided equally between the two districts. The total yield of this temporary ferry amounted in 1875-76 to £24 (Rs. 240).

Post.

For postal purposes the Panch Mahals form part of the Gujarát postal division. They contain six post offices at Godhra, Kálol, Hálol, Jámbughoda, Dohad, and Jhálod. These offices are supervised by the inspector of post offices in the Gujarát division, helped by the sub-inspector of the Kaira district. Except Jámbughoda with a clerk on £6 (Rs. 60) a year the officials in charge of these offices are styled deputy postmasters with yearly salaries varying from £24 to £48 (Rs. 240-Rs. 480) and averaging £36 (Rs. 360). Payments in connection with these offices are made from the disbursing post office at Baroda. There are six postmen on £9 12*s.* (Rs. 96) and five rural messengers on £12 (Rs. 120) a year.

Telegraph.

The district has no Government telegraph office.

Trade. *1855.*

At the time of the transfer of the district (1855) there were two branches of trade, one local, the other a through traffic between the coast and Gujarát in the west and Málwa and Central India in the east. The trading season lasted from October to June. Almost the whole traffic in both its branches was in the hands of professional carriers, wagoners belonging to the class of Musalmán Ghánchis and pack bullock owners, most of them Vanjárás or Chárans. The bullock owners went in great troops divided into bands, each with its leader, *náik*. The wagoners, most of them armed with swords and shields, forming large caravans joined purses to hire Bhils as advance

Chapter VI. Trade. 1855.

and rear guards. At night they drew their wagons into a circle, the cattle in the middle, each ox connected with its yokefellow and the wagon by an iron chain fastened to the cart wheel.[1] Each wagon carried about 1½ tons and was drawn by three or four pairs of bullocks. They charged a ton mileage rate of from 9*d.* to 1*s.* (6-8 *annas*). Of the through trade, the imports from Gujarát were tobacco, salt, cocoanuts, and spices; and from Málwa, opium, wheat, red dye, and Malwa cloth. Of the local trade the imports from Gujarát were, besides those sent to Málwa, hardware and piecegoods; the exports were honey, molasses, timber, *mahuda* berries, and gums from Godhra, Kálol, and the neighbouring states, chiefly westwards to Gujarát; and gram, oil, and maize from Dohad, chiefly eastwards to Malwa and Mewár. Both the through and the local traffic to Málwa were larger than the trade west to Gujarát.[2] At the time of transfer the district trade was stifled by the disordered state of the country, the want of roads, and the repeated levies of transit dues. Under British management order has been established, a bridged and metalled road runs through the whole breadth of the district, and transit dues have been simplified and to a great extent abolished. The result has been a marked increase of exports west to Gujarát. At the same time the opening from Khandva of a line of railway into the heart of Central India has greatly interfered with the former through trade from the sea coast and Gujarát to Málwa and Central India.

1855-1867.

The history of the Panch Mahál trade from the date of transfer up to 1867 is one of rapid development. Before the beginning of British management there were many routes from Gujarát and the Gulf of Cambay to south Rajputána and Central India. Of these one from Broach and Baroda went through Chhota Udepur and Ali Rájpur; a second from Cambay touched Nadiád, Kapadvanj, and Lunávada, while others from Baroda, A'nand, and Nadiád passed through the Panch Mahál and Báriya. Formerly the Panch Mahál lines had a bad name. The roads were rough, transit dues were heavy, and the country was lawless and disorderly. Under British management, with the establishment of order and the reduction of transit dues, the Panch Mahál route grew so popular that in spite of reductions in rates, transit and toll revenues rose from £3632 (Rs. 36,320) in 1858 to £7819 (Rs. 78,190) in 1861. During these years the trade increase was greatly fostered by a great and general rise in prices, encouraging production and enlarging the area from which supplies could with profit be forwarded.

1867-1876.

Up to 1867 no trade details are available. The following table, from figures gathered in Báriya, shows for the ten years ending 1875-76, the approximate traffic between Gujarát and the country east and north-east of Báriya, including the Dohad sub-division of the Panch Mahál and the Málwa and Mewár territory beyond.

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[1] Bishop Heber's Narrative (1825) II. 109. [2] Col. Buckle, 469, 17th July 1862.

Panch Mahâls Through Traffic, 1867-1876.

Articles.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.	1871-72	1872-73.	1873-74	1874-75.	1875-76.	Total.
	Tons.	Tons.	Tons.	Tons	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Wheat	634	862	230	...	838	860	604	153	159	501	4891
Gram	226	32	100	89	206	382	59	26	106	74	1300
Maize	160	49	111	137	2429	1445	148	253	42	406	5160
Rice	1281	271	357	6	378	452	202	23	50	159	3179
Other grains ...	2892	391	58	...	356	1118	136	160	137	915	6163
Mahuda (Bassia latifolia).	22	92	390	290	274	153	81	141	68	95	1606
Sesamum	195	459	60	153	381	153	174	165	69	142	1951
Oil	291	320	196	270	324	28	160	306	224	435	2554
Hides	130	44	64	24	53	86	56	96	54	81	688
Clarified butter	114	39	2	...	11	4	3	3	14	...	190
Dyes, gums	127	11	42	43	81	38	191	109	158	134	934
Live stock...	...	...	...	..	...	...	...	...	...	...	...
Timber	...	...	...	...	...	...	...	14	4	...	18
Opium	35	51	19	24	7	17	12	2	12	15	194
Miscellaneous	79	35	42	39	17	43	43	39	40	41	418
Total towards Gujárat...	6186	2656	1721	1075	5355	4779	1869	1470	1137	2998	29,246
Tobacco	4021	3998	2495	2375	2057	1913	2048	1825	2346	2022	25,100
Salt...	736	1378	869	670	783	402	1144	461	372	1288	8103
Piece goods	115	308	45	43	26	40	32	26	25	36	696
Hardware...	48	201	229	254	138	103	15	39	58	21	1106
Cocoanut	31	21	102	21	85	74	87	58	76	22	577
Hemp	93	90	10	9	5	3	42	35	6	6	299
Groceries	527	641	379	648	264	501	235	459	291	762	4707
Miscellaneous	79	37	43	39	16	43	42	40	41	40	420
Total towards Málwa...	5650	6674	4172	4059	3374	3079	3645	2943	3215	4197	41,008
Grand Total ...	11,836	9330	5893	5134	8729	7858	5514	4413	4352	7195	70,254

Gujarát to Málwa.

This statement shows in regard to the trade from Gujarát to Málwa that, during the ten years, Kaira tobacco supplied sixty and Khárághoda salt twenty per cent of the whole trade. The great fall in the export of tobacco from 4000 tons in 1866-67 to 1800 tons in 1873-74 can at least partly be traced to the transfer of trade to the railway by Bombay and Khandva. This route though more than five times as long has besides cheap railway charges the advantage of freedom from transit dues. In 1875 by the abolition of the Panch Mahâls transit dues trade taxation was much reduced. This and road improvements for a time drew back to the Panch Mahâls route a larger amount of tobacco. But in the native states transit dues are still heavy,[1] and as the railway has been continued from Khandva to Indor and Ujain the Panch Mahâls route is not likely to regain its position.

Salt though under the same conditions as tobacco shows less decline. The marked increase in 1875 is partly due to the fact that up to 1874 most of the salt was carried by pack bullocks and as the routes followed were often changed to avoid duties the returns are less complete than those for cart traffic. The minor items of export from Gujarát depend greatly on the season. They are chiefly for local use round the Dohad sub-division of the Panch Mahâls and include

[1] On one of the main Panch Mahâls trade lines, within native limits, the tonnage charges amount to about 2*d.* (1½ *annas*) a mile.

Chapter VI. Trade.

very little through trade. On the whole it may be said of the through trade from Gujarát to Málwa that the Panch Mahál route, though since 1867 much improved, has had to meet severe competition, and owing to the cheap railway carriage available on the other lines some of the trade has necessarily been lost, while heavy transit duties have prevented the opening of other outside markets to make up for the loss. But for the road and other improvements it is probable that instead of being reduced the through trade to Málwa would have entirely ceased.

Málwa to Gujarát.

As regards the trade from Málwa to Gujarát the quantity received is small. The value was formerly large as it included a considerable supply of opium for consumption in Baroda and the Rewa Kántha states and for illicit trade in British territory. This opium traffic has now been closed and the total value of the trade from Málwa much reduced. The bulk of the Málwa exports are food grains, wheat, gram, maize, and rice. These grain items amounting to as much as 70 per cent of the whole are, with the exception of a little Málwa wheat, the produce of the eastern division of the Panch Mahál and of the country round. Dohad has for many years been looked on as a granary and much of its surplus store always finds its way to Málwa, Mewár and Gujarát. Originally the eastern markets had the preference as the transport charges including duties were lighter. But the branch line to Páli, the new Panch Mahál roads, and lowered transit dues have helped to draw Dohad grain west. At present it supplies either Málwa, Mewár, or Gujarát according to price and demand. A bad season and high prices in either direction is sufficient to turn to it the bulk of the export. Under ordinary conditions Gujarát is now preferred, for besides improved communications the Málwa market is now to some extent supplied by the new Indor railway. The table shows a most marked variation in the grain export to Gujarát. There were 5000 tons in 1866-67, 4000 tons each in 1870-71 and 1871-72, and in 1869-70 and again in 1874-75 less than 500 tons.

On the whole the returns seem to show that in spite of improvements, so long as heavy transit dues are levied in the states round the Panch Mahál, the trade from Gujarát to Málwa is not likely to increase. On the other hand though the two last years have been unfavourable, Dohad is almost certain to yield larger exports of grain.

The above table includes only the through traffic between Gujarát and the country east of Báriya. The following table though for a shorter period is more complete including the two chief lines along which the bulk of the Panch Mahál traffic, both local and through, passes. The chief exports to Gujarát are grain, *mahuda* berries, timber, and oil seeds; the chief imports from Gujarát are tobacco, salt, cocoanuts, hardware, and piece goods.

Panch Mahál Road Traffic, 1874-1878.

Articles.	Godhra to Páli			Godhra to Baroda.			Total.		
	Export.	Import.	Total.	Export.	Import.	Total.	Export.	Import.	Total.
1873-74.									
Cocoanuts ...	..	110	110	...	...	...	..	110	110
Grain	146	...	146	2548	402	2950	2694	402	3096
Hardware ..	..	106	106	...	...	...		106	106
Mahuda, Bassia latifolia	516	...	516	431	...	431	947	...	947
Oil and oil seeds ...	398	...	398	286	...	286	684	...	684
Piece goods ...	..	123	123	34	..	34	34	123	157
Sundries	1492	1365	2857	1433	2017	3450	2925	3382	6307
Timber	3559	..	3559	647	1266	1913	4206	1266	5472
Tobacco	...	1973	1973	...	...	.	...	1973	1973
Total ...	6111	3677	9788	5379	3685	9064	11,490	7362	18,852
1874-75.									
Cocoanuts	...	178	178	...	...	...	...	178	178
Grain	909	...	909	2866	306	3172	3775	306	4081
Hardware ...	..	170	170	...	...	..	...	170	170
Mahuda, Bassia latifolia	1231	...	1231	383	...	383	1614	...	1614
Oil and oil seeds ...	1198	...	1198	385	...	385	1583	...	1583
Piece goods	..	118	118	15	..	15	15	118	133
Sundries	1152	1671	2823	682	1261	1943	1834	2932	4766
Timber	5310	...	5310	720	982	1702	6030	982	7012
Tobacco...	...	1826	1826	...	...	...	...	1826	1826
Total ...	9800	3963	13,763	5051	2549	7600	14,851	6512	21,363
1875-76.									
Cocoanuts	..	253	253	..	...	...	..	253	253
Grain	2859	...	2859	2036	166	2202	4895	166	5061
Hardware	..	432	432	...	...	.	...	432	432
Mahuda, Bassia latifolia	1085	..	1085	390	...	390	1475	...	1475
Oil and oil seeds ...	791	...	791	432	...	432	1223	...	1223
Piece goods	..	300	300	39	...	39	39	300	339
Sundries	1226	2460	3686	456	1212	1668	1682	3672	5354
Timber	7387	...	7387	912	789	1701	8299	789	9088
Tobacco	...	2261	2261	...	...	...	...	2261	2261
Total ...	13,348	5706	19,054	4265	2167	6432	17,613	7873	25,486
1876-77.									
Cocoanuts	..	150	150	...	...	...	...	150	150
Grain	5679	...	5679	1322	101	1423	7001	101	7102
Hardware	..	301	301	...	...	...	...	301	301
Mahuda, Bassia latifolia	5760	..	5760	147	...	147	5907	...	5907
Oil and oil seeds ..	266	...	266	291	...	291	557	...	557
Piece goods	...	151	151	31	.	31	31	151	182
Sundries	2150	2892	5042	469	1039	1508	2619	3931	6550
Timber	9579	..	9579	1291	866	2157	10,870	866	11,736
Tobacco	...	1942	1942	...	...	...	...	1942	1942
Total ...	23,434	5436	28,870	3551	2006	5557	26,985	7442	34,427
1877-78.									
Cocoanuts	...	183	183	...	6	6	...	189	189
Grain	6010	920	6930	1197	112	1309	7207	1032	8239
Hardware	...	331	331	6	1	7	6	332	338
Mahuda, Bassia latifolia	9175	...	9175	74	...	74	9249	...	9249
Oil and oil seeds ...	1263	2	1265	231	13	244	1494	15	1509
Piece goods	4	202	206	25	...	25	29	202	231
Sundries	1316	1767	3083	290	514	804	1606	2281	3887
Timber	9857	20	9877	63	5	68	9920	25	9945
Tobacco	...	2659	2659	7	2	9	7	2661	2668
Salt	12	3729	3741	15	10	25	27	3739	3766
Firewood	4692	28	4720	269	253	522	4961	281	5242
Grass	126	32	158	9	264	273	135	296	431
Total ...	32,455	9673	42,328	2186	1180	3366	34,641	11,053	45,694

Chapter VI. Trade. 1874-1878.

In spite of stagnation and even decline in some items of the through traffic the trade as a whole shows a marked advance from 18,852 tons in 1873-74 to 21,363 in 1874-75, 25,486 in 1875-76, 34,427 in 1876-77, and 45,694 in 1877-78.

There can be no doubt that the new Páli railway branch, the opening of the Panch Mahals roads, and the removal of transit duties have had a powerful influence for good on the commercial prosperity of the district both in developing old branches of trade and in starting new ones. The effect is chiefly felt in the Panch Mahals itself and in those districts round where the benefits are not neutralized by excessive transit taxation.

In spite of the large total increase the returns show a marked decline in traffic along the Godhra and Baroda road. Fifteen years ago it was proposed to provide a good road for the Panch Mahals trade towards Baroda. But much of the distance is in native territory and as there were many difficulties the Páli line was adopted in its stead. The result has been not only a transfer of traffic from one route to the other but a large additional trade, the Páli road alone carrying much more than the whole united former trade.

Exports. *Timber.*

Timber is the chief article of export, the quantity varying during the last five years from 5472 tons in 1873 to 11,736 tons in 1876. Most of this timber is the produce of the Báriya, Sanjeli, and other forests surrounding the Panch Mahals; the rest comes from the Panch Mahals forests. The trade centres in Godhra[1] where, with a certain number of Hindu and other timber merchants, the chief dealers are Musalmáns of the sect of Shia Bohorás. There is little teak of any size. The produce is mainly small teak rafters and poles, beams of other forest trees and bamboos. At Godhra the dealers buy timber from Bhils and Kolis, who bring it to market. But the sellers to secure higher prices often prefer to carry their timber to Páli and even to Dákor and Nadiád. Most timber is

Panch Mahals Exports, Timber, 1873-1877.

Year.	Godhra and Páli.	Godhra and Baroda.	Total.
	Tons.	Tons.	Tons.
1873-74 ...	3559	1913	5472
1874-75 ...	5310	1702	7012
1875-76 ...	7387	1701	9088
1876-77 ...	9579	2157	11,736
1877-78 ...	9877	68	9945

[1] The following shows the area and (1872) population of the districts of which Godhra is the natural centre :

Godhra Trade Districts.

District.	Area.	Population, 1872.
Panch Mahals	1731	240,743
Sunth	394	49,675
Báriya	813	52,813
Lunávada	388	74,813
Pándu Mehvás	113	35,610
Total ...	3439	453,654

brought to Godhra by Kolis. But of late years Ghánchis and other Musalmáns have begun to compete in this branch of the carrying trade. The Government Forest Department sells chiefly to dealers and disposes of much of its supply wholesale in the forests. Of late years the timber trade has been rapidly increasing, the Páli railway and new roads opening out more distant areas of supply. The falling off in the last year is only apparent. It is because firewood has been taken as a separate item. In reality there is a large increase.

Grain.

There is a considerable Grain[1] trade from all parts of the Panch Mahás and from the neighbouring states. But the supplies chiefly come from the Dohad sub-division. Gram, by far the heaviest item, goes to Bombay and Gujarát; maize is not usually exported in any quantities though in 1870-71 owing to failure of crops in the west, the export rose to 2429 tons. Grain exports vary much according to the harvests as well as to the relative prices and demand from Málwa, Mewár and Gujarát. Wheat and rice are exported from Dohad and rice from Kálol. Under ordinary conditions the grain trade is growing and likely to grow.

Panch Mahás Exports, Grain, 1873-1877.

Year.	Godhra and Páli.	Godhra and Baroda.	Total.
	Tons.	Tons.	Tons.
1873-74 ...	146	2950	3096
1874-75 ..	909	3172	4081
1875-76 ...	2859	2202	5061
1876-77 ...	5679	1423	7102
1877-78 ...	6930	1309	8239

Mahuda.

Almost all of the dried flower and fruit of the *mahuda*, Bassia latifolia, the produce of Godhra and the surrounding native territory, goes west to Gujarát. The crop ripens in April. Gathered chiefly by Bhils and Kolis it is made over to Vániás and other men of capital who either dispose of it to Pársi contractors or export it at their own risk. Most of it finds its way to Surat and Bombay. *Mahuda* is one of the articles most affected by the opening of the Páli railway. Before 1873 the trade set to Baroda and A'nand, passing either by rail or by road to Broach and from Broach by sea to Bombay. Now the trade centres in Páli. The export has risen from 947 tons in 1873 to 9249 in 1877. The large increase in the last two years was owing to favourable seasons, to the new roads and railways, and to the additional area tapped. The amount of *mahuda* available for export, depending on the grain as well as the *mahuda* crop, varies greatly from year to year. Of the amount all, except three tons in 1873 and 149 in 1876, went westwards to Páli and Baroda.

Panch Mahás Exports, Mahuda, 1873-1877.

Year.	Godhra and Páli.	Godhra and Baroda.	Total.
	Tons.	Tons.	Tons.
1873-74 ...	516	431	947
1874-75 ...	1231	383	1614
1875-76 ...	1085	390	1475
1876-77 ...	5760	147	5907
1877-78 ...	9175	74	9249

[1] This is a trade of long standing, wheat and barley were (1586) brought from Málwa to Gujarát. Gladwin's Ain-i-Akbari, II. 62.

Chapter VI. Trade. 1874-1878.

Firewood.

Firewood is to a great extent a new export. Before the opening of the Páli railway very little crossed the Mahi. This trade is almost confined to the Godhra and Kálol sub-divisions; employs Kolis, Musalmáns, Ghanchis, and others. It is rapidly developing, the chief buyers being the mills at Ahmedabad and in other parts of Gujarát. The forest and waste tracts yield a large annual growth of firewood now for the first time made use of, and if the railway is taken on to Godhra a still large area will be thrown open.

Panch Mahál Exports, Firewood, 1877.

Year.	Godhra and Páli.	Godhra and Baroda.	Total.
	Tons.	Tons.	Tons.
1877-78 ...	4720	522	5242

Oilseeds.

Of oilseeds sesamum, *tal*, is mostly grown in Dohad and Jhálod, and castor oil in Godhra and Kálol. They are all sent to Gujarát. So far the quantities have varied according to the character of the seasons. But a gradual increase in the export of oil seeds may be looked for.

Panch Mahál Exports, Oilseeds, 1873-1877.

Year.	Godhra and Páli.	Godhra and Baroda.	Total.
	Tons.	Tons.	Tons.
1873-74 ...	398	286	684
1874-75 ...	1198	385	1583
1875-76 ...	796	432	1228
1876-77 ...	266	291	557
1877-78 ...	1265	244	1509

Imports.

Tobacco.

Of imports tobacco is the chief. The marginal figures show the changes in the trade during the last five years. There is little to add to what has already been said under the head 'through trade.'

Panch Mahál Imports, Tobacco, 1873-1877.

Year.	Godhra and Páli.	Godhra and Baroda.	Total.
	Tons.	Tons.	Tons.
1873-74 ...	1973	...	1973
1874-75 ...	1876	...	1876
1875-76 ...	2261	...	2261
1876-77 ...	1942	...	1942
1877-78 ...	2659	9	2668

Salt.

Like tobacco, salt has been treated under the head 'through trade.' Besides what goes to Málwa there is a large local demand in and near the Panch Mahál. But from the former abuses connected with the carrying of salt on pack bullocks no accurate returns are available. The figures for 1877-78 are fairly correct. At present the import of salt is increasing.

Panch Mahál Imports, Salt, 1877.

Year.	Godhra and Páli.	Godhra and Baroda.	Total.
	Tons.	Tons.	Tons.
1877-78 ...	3741	25	3766

Cartage.

Fifteen to twenty years ago mile cartage rates varied from 7½*d.* to 1*s.* (5-8 *annas*) a ton. Now the rates are much less. Cartage rates are usually quoted in the local markets at so much the 40 lbs, *man*, for the journey, including as a rule transit duties and tolls. Between Páli and Dohad a distance of sixty-two miles the present mileage charge is about 3*d.* (2 *annas*) a ton, of which nearly ½*d.* (6 *pies*) is for tolls and duties. From Dohad to Ratlám, about 7[illegible] miles, the mile rate for tobacco and salt varies from 7½*d.* to 10½*d.*

(5-7 *annas*) the ton and of this from 2¼*d.* to 3*d.* (1½-2 *annas*) is for tolls and duties. Excluding duties and tolls a mile rate varying according to season and demand from 2¼*d.* to 4½*d.* (1½-3 *annas*) a ton gives the present range of Panch Mahál cart hire. In old days the carrying trade was almost monopolized by Musalmáns of the Ghánchi class and on account of bad roads and want of protection was avoided by others. Now as the roads are safe and good, competition among all classes who have carts and bullocks is most eager and many persons come from great distances to carry on the Godhra and Páli road.

Cartage.

The only industry of special interest is in Dohad the making of lac bracelets.[1] The lac is produced in small quantities in Dohad and largely in the forests of the neighbouring states of Ali Rájpur, Udepur, and Devgad Báriya. The chief lac-yielding trees are the *pipla*, Ficus religiosa, the *khákhra*, Butea frondosa, the *bordi*, Zizyphus jujuba, and the *kusamb*, Schleichera trijuga.

Manufactures.

The lac is collected by Bhils and Náikdás who either for grain or cash sell it to the Bohora or Vánia grain-dealers at from 1*d.* to 1¼*d.* a pound (Rs. 1-8-Rs. 2 a *man*), who in turn sell it to town traders almost all Musalmáns of the Shia or Dáudi Bohora sect. When it comes to the traders the lac is in a raw state sticking to bark and twigs. To separate the lac from the wood the whole is pounded with stones and winnowed. In this state the powdered lac, *kanja*, is stored, its price in ordinary years varying from 10*s.* to 16*s.* for 40 pounds (Rs. 5-Rs. 8 a *man*), the cheapest coming from the *pipla*, *khákhra* and *bordi*, and the dearest from the *kusamb* trees. Of the whole supply only a little is locally worked up into lac bracelets. Of the rest in ordinary years about 5 tons (280 *mans*) go to Ahmedabad and 7¼ tons (400 *mans*) to Ratlám. In Ahmedabad the lac is used for colouring leather, and in Ratlám for making bracelets.

Lac Bracelets

Before being used the powdered lac, *kanja*, is placed in a bamboo basket, mixed with powdered alum, washed with water, and for a day set to dry in the sun. Then it is ground to powder, melted in a metal pan, and in the proportion of two ounces to the pound (five *tolás* to one *ser*) mixed with brick dust and old powdered lac bracelets. The mixture is melted, poured on the ground, and rolled into a round flat cake. The cake is cut into three or four pieces, each piece heated and between two stones rolled into a stick generally 5½ pounds in weight. The stick ready, some dearer lac is mixed with yellow orpiment, or red earth, or both, and made into small cakes from five to six ounces in weight. Then these yellow or red cakes are laid as an outside coating, on the first lac stick, in such a way as to make it all red or all yellow, or one side red and the other yellow. The end of the stick is then heated, drawn out, and then the proper length for a bracelet cut off. As they are formed, the bracelets are slipped over the oily conical head of a pestle-shaped tool known as the 'rice-pounder,' *sámela*. This has usually a head about ten inches long, varying in size from two inches across the top to four inches across the foot, and a handle about a foot and a half long. When the head has been covered with rings they are carefully heated so that

[1] Checked and added to by Bamanji Modi, Esquire, District Deputy Collector.

Chapter VI. Trade.

Manufactures.

without melting the rings may stick to each other. This done, the set of rings is taken off, rubbed with brick powder, polished and either with *copal* varnish or with a mixture of gumarine, *chandrus*, and linseed oil, coloured vermillion, blue, or yellow.

Lac Bracelets.

When the cylinder of bracelets has been coloured the next step is to print a pattern on them. For this purpose about two ounces of tin, *kathir*, are melted into a thin plate and rolled round a small ball of glue. The ball is then set on a stone and for a whole day hammered by two men, the particles mixing together till they form a dull-grey metallic plate. Next day the plate is broken in pieces, thrown into a copper vessel with a little water in it, and placed over a slow fire. The plate gradually melts leaving a sediment sometimes strained off through a coarse cloth. The water is now ready for use. Meanwhile a little very fine cotton wool is tightly wound round a small bamboo chip and so wetted and pressed that it makes a pad or stamp hard enough to have a pattern graven on its face by a large iron needle. This cotton stamp is now taken, dipped in the tinwater, and being very lightly pressed on the cylinder of bracelets prints its pattern on their varnish. After printing the bracelet the cylinder is varnished once a day for three days, the varnish turning the white markings of the tin pattern into a beautiful gold. Then the pattern is completed by studding the bracelet with drops of tinwater coloured red with vermillion or white with chalk. A final coating of varnish finishes the work. When they are to be sold the bangles are separated from each other by a knife-like tool. Each bangle is then cut, passed over the wearer's hand, and the ends melted and joined. The bracelets are sold two for ⅝*d.* (a *pice*) generally in sets of twenty-five for each hand. They are generally worn by the Vánia women of Málwa, and by Dohad women of the Rajput, Patelia, and Rávalia castes.

These lac bracelets are an imitation of the costly ivory Ratlám bracelets, of which a woman generally gets one set at her marriage, wearing them only on very great occasions. Besides bracelets, yellow and red striped armlets, *goliás*, are worn between the elbow and the shoulder. Except that they have neither varnish nor pattern these are made in the same way as the bracelets. Two of them sell for ⅝*d.* (a *pice*.) The manufacture of lac bracelets gives employment to a special class of craftsmen called Lákhárás. Of these six families are settled at Jhálod and nine at Dohad. About half of them are Musalmáns and half Hindus.

Hair Combs.

Another industry is the manufacture in the villages of Jesváda and Gángdi in Dohad of blackwood hair combs. The makers are Musalmáns called from their occupation *kánskigars* or comb makers. Their combs are bought wholesale by Dohad Dáudi Bohorás who polish and finish them and send them to Málwa, Gujarát, and even to Burhánpur.

Grass Oil.

In former times paper, soap, and grass oil were made, and Chámpáner was famous for its cloth-bleaching, calico-printing, silk-weaving, and sword blades. These industries have almost entirely disappeared. The grass oil made from the large long-bladed

Manufactures. *Grass Oil.*

aromatic grass known as *roisa*, which used to grow over large stretches of waste land was, at the rate of 4*s*. (Rs. 2) a pound, bought in considerable quantities and used partly as a remedy for rheumatism, partly to mix with *attar* of roses. The oil was extracted by distillation. A rough stone oven was built by the side of a stream and in it a large metal caldron was placed and filled with bundles of grass and water. When full, a wooden lid was put on and sealed with a plaster of ground pulse, *adad*. Through a hole in the lid one end of a hollow bamboo was thrust and the other end passed into a smaller metal vessel securely fixed under water in the bed of the stream. The oven was then heated and the vapour passing through the hollow bamboo was by the coldness of the smaller vessel precipitated as oil.

Fairs.

Sámláji in the Mahi Kántha and Dákor in Kaira are at the times of their great religious gatherings places of considerable traffic. But few of the local fairs are of any trading importance. Except some in the west who go as far as Baroda and Páli most well-to-do cultivators generally bring their produce to Godhra, Kálol, Vejalpur, Dohad, Limdi, Garbada, Gángdi, and Jhálod, permanent marts with resident dealers in grain, cloth, oil seeds, grocery, and hardware. Many of the smaller villages and almost all of the Bhil settlements are without regular shops, the Bhils doing most of their buying and selling with one of their town money-lenders or large village dealers. There is also a class of village traders Márvádi Vániás in the east, and Gujarát Vániás, and a few Musalmán Bohorás and Ghánchis in the west, some of whom live in villages during the whole and some during part of the year.

Trade Guilds.

Though with so scanty and backward a population, each town has its merchant's guild, *mahájan*, regulating trade. Last year (1877) with the object of lowering prices the *mahájan* of Jhálod agreed to stop the export of grain. This year (1878) too they did the same. But at the persuasion of the local authorities the agreement was rescinded. Where members of a craft belong to the same caste, the caste council, *panch*, sometimes hears and settles disputes on points of trade. The councils of more than one caste have, to prevent a fall in wages, been known to join in striking work and occasionally two castes have together appointed a special council to settle trade disputes. The Vániás and Sonis, together spoken of as the *mahájan*, have been known to unite in stopping business as a protest against a distasteful sanitary order. But the combination was partly religious, partly social, and neither depended on, nor called forth any special trade organization.

CHAPTER VII.

HISTORY.

Chapter VII. History.

EARLY HINDU. 350-1300.

MUSALMA'N, 1300-1730.

MARA'THA, 1730-1853.

THE history of the Panch Mahals centres in the city of Chámpáner. In a copper plate inscription of Shiláditya V. of Valabhi bearing date 404-441 Samvat, A.D. 348-385, reference is made to the camp of victory fixed at Godhrahaka and this may be the modern Godhra.[1] No other early mention of the district has been traced. Chámpáner is said to have been founded in the seventh century (647) in the reign of Van Ráj, the first ruler of Anhilváda. In the end of the thirteenth century (1297) the Choháns retreating from Khichiváda before the Musalmáns under Alá-ud-din Khilji became lords of the country. Their sway lasted till the conquest of Chámpáner by Mahmud Begada in 1484. During the next fifty years the neighbourhood of the city would seem to have been one of the richest parts of Gujarát. Barbosa (1514) describes it as full of well tilled fields and rich in all products. So too the author of the Mirat-i-Sikandri (1611) is eloquent in praise of its fruits, its mangoes the best in the kingdom, and its sandalwood so plentiful as to be used in house building. Deserted by the court before the middle of the sixteenth century (1536), Chámpáner[2] had by its close become ruined, and much of the country had fallen into wilds and forests. Under the Moghal Emperors (1573-1727) Godhra became the district head quarters. But, unlike the rest of Gujarát, the Panch Mahals seem never to have prospered under the Viceroys or regained their lost cultivation or wealth. Occasionally an Emperor or a Viceroy in travelling from Málwa to Gujarát passed through the district.[3] But its chief mention in the seventeenth century is as a hunting ground for wild elephants.[4]

In 1727 Krishnáji, foster son of Kantáji Kadam Bánde, attacked Chámpáner, levied a regular tribute, and seems to have held the country till about the middle of the century Chámpáner was seized and the Panch Mahals annexed by Sindia.[5] Though the citadel of Pávágad was taken by the British in 1803 they made no attempt to

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1 Ind. Ant. LXIII. 16.

2 At the time of Todar Mal's survey 1590 (984 H.) Chámpáner was the centre of thirteen districts; Haveli, Dilol, Udhadreh, Jaládreh, TimorBasneh, Chorási-Chámpáner, Dohad, Sonkráh, Sanoli, Mohun, Jamungám, Walehbud, and Girásiás and Zamindárs. All traces of Todar Mal's survey had been lost, Mirat-i-Ahmadi in Bom. Gov. Rev. Rec. 45, Vol. II. of 1821, 673.

3 Jahángir passed in 1617 when Sir T. Roe was with his camp, and Sháh Jehán in 1619 when, at Dohad, Aurangzeb was born.

4 One of the events of interest recorded in 1645 is the capture of seventy-three elephants in the forests of Dohad and Chámpáner. Watson's History of Gujarát, 74.

5 See Chámpáner. No details have been procured of Sindiá's conquest of the Panch Mahála.

occupy or administer the lands of the district. Even the citadel was restored to Sindia in the next year and remained in his hands till in 1853 the district was transferred to the British. During this time, as an outlying part of Sindiá's domain, the management of the Panch Mahál was very loose and unsatisfactory.[1] In 1825 the greater part of the eastern division was covered with forest,[2] and though some advance was afterwards made, in 1853 when the Panch Mahál were transferred to the British they were still in a very backward state.

British, 1853-1879.

Under British rule order was established and with two exceptions has been maintained. The exceptions are an inroad of mutineers in 1858 and a Náikda rising ten years later.

Tátia Topi's Raid, 1858.

In 1858,[3] after his defeat at Gwálior, at the close of the mutinies in Northern India, Tátia Topi moved rapidly towards the Deccan. The chiefs of Jamkhandi and Nargund had been in treasonable correspondence with the rebel chiefs in the North-West and had invoked their aid. It is more than probable that if Tátia Topi had entered the Deccan in force, there would have been a general insurrection of the Marátha population. Tátiá's march to the Deccan soon assumed the character of a flight. He was closely pressed by two columns under Generals Somerset and Mitchell, and a very compact and enterprizing little field force commanded by Colonel Park.

Colonel Park's own regiment, the 72nd Highlanders, many of the men mounted on camels, formed the main fighting power of this force. His indefatigable energy in the pursuit of the enemy allowed them no rest, and eventually brought them to bay at Chhota Udepur.

Fearing to face the open country of Berár with such an uncompromising enemy in pursuit, Tátia recrossed the Narbada at Chikalda and marched towards Baroda. He had, by means of an agent named Ganpatráv, for some time been in communication with the Bháu Sáheb Povár, a brother-in-law of His Highness the Gáikwár, and had been led to expect aid from the Baroda Sardárs and the Thákors of the Kaira and Rewa Kántha districts. Immediately it became known that Tátia had crossed the Narbada, troops were put in motion from Kaira, Ahmedabad, and Deesa for the protection of the eastern frontier of Gujarát. Captain Thatcher, who had succeeded to the command of the irregular levies raised by Mr. Ashburner in Kaira, was ordered to hold Sankheda with the irregulars and two of the Gáikwár's guns. He was afterwards reinforced by Captain Collier's detachment of the 7th Regiment N. I., which fell back from Chhota Udepur on the approach of the enemy.

Tátia Topi at this time commanded a formidable force composed of fragments of many mutinous Bengal regiments. He had also been joined by a mixed rabble of Villáyatis, Rohillás, and Rajputs, who followed his fortune in hopes of plunder. The Nawáb of Kamona, Ferozsha, and a Marátha Sardár, who was known as the Ráv Sáheb, held subordinate commands. Each fighting man was followed by

[1] Bom. Quar. Rev. III. 359. [2] Bishop Heber's Narrative, II. 103.

[3] This note on Tátia Topi's raid and the next paragraph on the 1858 Náikda Rising are contributed by the Honourable L. R. Ashburner, C.S.I.

one or more ponies laden with plunder which greatly impeded their movements. It was chiefly owing to this that Colonel Park was enabled to overtake the rebels and to force them into action.

British, 1853-1879.

Tátia Topi's Raid, 1858.

On reaching Chhota Udepur the troops of the Rája fraternized with the enemy, and Captain Collier having evacuated the town, Tátia Topi was allowed to occupy it without opposition. He had intended to halt at Chhota Udepur to recruit his men and to develop his intrigues with the Baroda Sardárs, but Park gave him no respite. On the 1st December 1858, he fell upon Tátiá's rebel force and defeated it with great slaughter, his own loss being trifling. After this defeat there was great confusion in the ranks of the insurgents. Tátia Topi abandoned his army and did not rejoin it till it had reached the forest lands of Párona. Discipline, which had always been lax, was now entirely thrown aside. The muster roll of one of Tátiá's cavalry regiments was picked up and showed that out of a strength of 300 sabres there were only sixteen present for duty. The rebel force separated into two bodies, one doubled back and plundered Park's baggage, which had fallen far to the rear, the other under Ferozsha entered the Panch Maháls and looted Báriya, Jhálod, Limdi and other villages; Godhra being covered by Muter's force was not attacked. Park's force was so disabled by the plunder of its baggage and by long continued forced marches, that it was compelled to halt at Chhota Udepur, but General Somerset took up the pursuit and rapidly drove Tátia from the Panch Maháls. He fled in the direction of Salumba. The Thákor of that place was in arms, and Tátia no doubt expected support from him, but the Thákor was too cautious to join what was then evidently a hopeless cause. On reaching Nargad on the 20th February 1859, Ferozsha made overtures of surrender, and a week later 300 cavalry and a mixed force of 1500 men under Zahur Ali and the Molvi Vazir Khán laid down their arms to General Mitchell. They were admitted to the benefit of the amnesty. The remnant of Tátiá's force fled to the north-east.

Náikda Rising, 1858.

In October 1858, instigated by the intrigues of the Bháu Sáheb Povár, the Sankheda Náikdás,[1] a very wild forest tribe, took up arms under Rupa and Keval Náiks, and after having plundered the outpost, *thána*, at Nárukot, attacked a detachment of the 8th Regiment N. I. under Captain Bates at Jámbughoda. They were repulsed with considerable loss after a desultory fight during the greater part of two days. On the arrest of Ganpatráv, the Bháu Sáheb's agent, this troublesome insurrection would probably have collapsed, but the Náikdás were joined by a number of Villáyatis, matchlock men, the fragments of Tátiá's broken force, who encouraged them to hold out. They occupied the very strong country between Chámpáner and Nárukot, and kept up a harassing warfare, plundering the villages as far north as Godhra.

A field force commanded by the Political Agent of the Rewa Kántha, Colonel Wallace, was employed against the Náikdás during the cold weather of 1858, and in one of the frequent skirmishes with the insurgents Captain Hayward of the 17th Regiment N. I. was

[1] Details of the Náikdás are given at page 222.

severely wounded by a matchlock bullet on January 28th, 1859. The only success obtained by the Náikdás was the surprise of Hassan Ali's company of Hussein Khán's levy. The Subhedár had been ordered to protect the labourers who were employed in opening the pass near the village of Sivrájpur, but the duty was very distasteful to him, and his son deserted with twenty-four men on the march to Sivrájpur. They were suddenly attacked by a mixed force of Makránis and Náikdás. Seven men including the Subhedár were killed and eleven wounded without any loss to the enemy. The Subhedár neglected to protect his camp by the most ordinary precautions and his men appear to have behaved badly. They fled without firing a shot directly they were attacked. But little progress had been made in pacifying the Náikdás till Captain Richard Bonner was employed to raise and organize a corps composed chiefly of Bhils with their head quarters at Dohad in the Panch Maháls. Captain Bonner's untiring energy and moral influence soon reduced the Náikdás to submission. Rupa Náik laid down his arms and accepted the amnesty, March 10th, 1859, and Keval Náik followed his example soon after.

Náikda Rising, 1868.

After ten years of quiet and steady progress, in 1868, the Náikdás again rose in revolt. Towards the close of 1867, Joria, a Náikda of the village of Vadek about 1½ miles north-west of Jámbughoda, began to act as a Bhagat or inspired man. Giving out that he was Parameshvar, or the supreme lord, he claimed to have the power of working miracles, preached the purest morality, made converts, and for a man of his position showed a surprising knowledge of Hindu mythology and ritual.[1] So great was his success that to be allowed to come near him was thought a high favour, and numbers of worshippers, some of them men of good caste and position, followed him from place to place seeking his blessing. About the middle of January 1868 Joria gained a most useful adherent in Rupsingh Gobar, proprietor of Dandiápur. A pardoned rebel and outlaw, Rupsingh, though a Náikda and uneducated, from his natural ability, shrewdness, and tact had gained much power over the people of his tribe. Under his influence Joria, leaving his scheme of moral reform, agreed to join in raising a kingdom of which Joria should be the spiritual and Rupsingh the temporal head. Joriá's birthplace, the village of Vadek, was chosen as the royal seat. A joint court was established and revenue collected, partly from religious gifts and fines, partly by the levy of transit dues. Of these doings and of the accompanying local excitement, the native officials took no notice and sent no word to the Governor's Agent then in a distant part of the district. Before long the new rulers took more open steps to advance their power. In the end of January Rupsingh revived an old claim to share in the revenue of Rájgad, a police station near Nárukot. His claim was

[1] He held spiritual court, himself supreme, and under him many grades of lower gods and attendants, Rupsingh his chief supporter giving up his daughters to play the part of Gopis. So elaborate was his scheme that it seemed the work of some Bráhman or religious beggar. After his capture every effort was made to trace Bráhman help. But there was nothing to show that Joria had not himself worked out all the details.

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Náikda Rising, 1868.

rejected. A few days after (February 2nd) collecting a body of Náikdás and bringing Joria Bhagat with him Rupsingh came to Rájgad. Leaving the Náikdás and Joria outside of the bamboo pallisade, Rupsingh and his sons went into the station and inviting the Makráni garrison to go out and see the holy personage, seated themselves beside the commandant and some other officers of the post. After a time the talk ran on Joriá's spiritual power and pretensions. One of the officials holding out his closed hand asked in jest if the divinity could tell what was in his hand. 'There is death in it,' shouted Galália, Rupsingh's eldest son, and drawing his sword cut the man down. The commandant escaped through a window and the Makráni guard, outside of the stockade and unarmed, fled. The Náikdás swarmed in, broke open the treasure chest and ransacked the place.

Rupsingh lost no time in following up this success. Jámbughoda about fourteen miles from Rájgad, though a place of no strength, was the chief post in the neighbourhood with a guard of about thirty armed police. To the commandant of this post Rupsingh sent word: 'Make ready to fight, for Rupsingh is on the way.' On February 4th about three in the afternoon, seeing bands of Náikdás coming towards the station, the Jámbughoda commandant drew up his men opposite an opening in the fence. From the advancing crowd three Bhagat-consecrated champions, their bare bodies smeared with red paint, came forward, shot arrows, and grasping their swords rushed at the stockade. As they came the guard fired a volley, their bullets, so they said, dashing the paint off the champions' bodies but doing them no harm. By this time the champions were within the enclosure, and the panic-struck police, leaving two of their number dead, took to flight. The station was pillaged, the records torn, and the shops and houses sacked. After this the village of Jetpur, at the time the residence of the Chhota Udepur chief, was taken, the chief flying for his life. Though successful, this attack on Jetpur did much to shake his followers' trust in Joria. Two of his wound-proof warriors were shot dead. The Bhagat said they were not dead, and sent the bodies to Vadek, declaring that if British troops came against them they would rise and fight. But after a day or two at Vadek the house where the bodies lay was burnt and, in spite of his explanation that the men had died because they had disobeyed his orders, the trust in Joriá's power was shaken.

Hearing that the old outlaw Rupsingh was 'out' and had sacked Rájgad, the Agent to the Governor and the Superintendent and assistant superintendent of police,[1] then about eighty miles off in Dohad, sending an express to Baroda and Ahmedabad for military aid, started with an escort of twenty-five of the Bhil corps and by cross-country tracks pushed straight for Jámbughoda. On the way they were met by news of the capture of Jámbughoda, and as with their small body of Bhils it was useless to enter the disturbed country, at Hálol about twenty-five miles west of Jámbughoda they waited the arrival of the troops. On the evening of the 11th, 200 men of the

1 Mr. Propert was Governor's Agent, Captain Segrave Superintendent, and Lieut. Westmacott assistant superintendent of police.

26th Native Infantry, under the command of two European officers,[1] came from Baroda, and on the same day the camp was joined by the Police Commissioner.[2] Next day (February, 12th), as 200 of the 6th Native Infantry were due from Ahmedabad, it was settled to leave a small garrison in Hálol and press on with the main body to Sivrájpur, about eleven miles east, on the way to Jámbughoda. Sivrájpur was reached without annoyance. Next day, the 13th, one of the Ahmedabad companies arrived at Sivrájpur and the other marched to Rájgad to join the Rewa Kántha Political Agent.[3] During these days the Náikdás at Vadek were full of the wildest trust and zeal. Almost every soul, for about twenty miles round, believed that the British Government was at an end, and that under Rupsingh and Joria a *dharamráj* or religious rule had begun. In their former fights with trained troops the Náikdás carefully avoiding the open, by sudden night attacks, had wearied their opponents. But now, as they seemed to have given up their old tactics, every effort was made to lose no time in letting them try the chance of an open fight. Leaving fifty of the 6th Native Infantry and twenty-five of the Gáikwár's Makránis at Sivrájpur, on the morning of the 15th the force advanced safely and without hindrance to Jámbughoda. At Vadek the news that the greater number of the troops had left, emboldened the insurgents to attack Sivrájpur. News of their design reached the garrison, and the position, nothing more than a bivouac under some large trees, was strengthened by a cart barricade. At dusk with shouts of Rám, Rám, the Náikdás poured out of the forest and led by one of their wound-proof warriors, shooting arrows and firing matchlocks charged the camp. Met by a steady fire they retired with loss, and before dawn after two more fruitless efforts, carrying their dead with them, they withdrew to Vadek.[4]

Early on the same morning (Sunday, February 16th) starting from Jámbughoda the British troops marched against Vadek.[5] On nearing the village small parties of Náikdás were seen scattered over the hill sides and on the level ground. As the troops came closer one man in bright yellow and red was conspicuous moving about with a band of followers, some dancing in religious frenzy, others armed with bows and arrows. At first unconcerned, the leader and his band suddenly made for the hill. To cut off their retreat the cavalry led by Captain Macleod dashed forward. But two attempts to strike the man in red and yellow failed and except the police inspector and a native officer of the Poona Horse, the troopers, believing that the Náikda leader had a charmed life, fell back.

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[1] Captain Macleod and Lieutenant Reay. [2] Mr. Rogers.

[3] The Political Agent was Major Barton; the officers in charge of the companies Captain Sibthorpe and Lieut. Burnes.

[4] Of the garrison none were killed; six Makránis and one of the 26th Native Infantry were wounded. Of the Náikdás twenty-eight were killed and wounded.

[5] The force was under the command of Captain Macleod. It consisted of a detachment of H. M.'s 26th Native Infantry; a few of the 6th Native Infantry; fifty of the Gujarát Bhil corps; eighty Arabs from Baroda; and about thirty mounted police. The European officers present were Captain Macleod, Lieut. Burnes, Lieut. Reay, Captain Segrave, Lieut. Westmacott, Mr. Rogers, and Mr. Propert. Agent, 167, 18th February 1868.

Chapter VII. History. British, 1853-1879. *Náikda Rising, 1868.*

Against the three unaided horsemen the Náikdás plied their arrows with such effect that the Risáldár of the Poona Horse was killed and Captain Macleod twice narrowly escaped. Emboldened by this success the Náikdás, though the infantry were close upon them, kept advancing, till as their foremost men reached the bank of a water-course, a shot from each of the three district officers laid low the leader in red and yellow and two of his chief supporters. With the loss of nine of their number the Náikdás fled, and the rising was at an end.

The slain leader was at first thought to be Joria. But Joria had escaped, and this was a deputy whom in token of his trust Joria had decked in his own clothes. Rupsingh's second son was among the killed and Rupsingh though he escaped was wounded. Order was soon restored. The people, on the assurance that their misconduct would be forgiven, came in and settled in their villages. The four chief criminals, Joria the Bhagat, Rupsingh, his eldest son Galália, and his minister were still at large. But by unceasing pursuit in less than a month all were secured and after trial, were with one of Joriá's spiritual champions who had taken an active part in the sack of Jámbughoda, convicted and hanged.[1]

[1] This account is taken from Mr. Propert's Report, Bom. Gov. Pol. Rec. No. 102 of 1868, and from "Our Little War with the Náikdás." Cornhill Magazine, XVIII. 626-640.

CHAPTER VIII.

LAND ADMINISTRATION.

THERE are two periods in the British management of the Panch Mahâls; eight years (1853-1860) when they were held in charge for His Highness Sindia, and eighteen years (1861-1878) since they have formed one of the British districts of the Bombay Presidency.

Acquisition.

For years after order had been established in the Rewa and Mahi Kántha districts, in the Panch Mahâls crime was unpunished and wrongs unredressed, and from the weakness of their ruler the Panch Mahâls were a source of danger and annoyance to the neighbouring states. In 1852 the Bombay Government pressed for some change; their complaints were, by the Governor General's Agent, laid before His Highness Sindia, and an arrangement made that for ten years the territories should be placed under the charge of the Rewa Kántha Political Agent who, with the surplus revenue, was to forward a yearly financial statement to the Governor General's Agent at Gwalior.[1] This proposal was approved by the Government of India (3rd June 1853), and under orders from the Government of Bombay Major Fulljames (30th July 1853) took the district under his charge.

Before the ten years were over, His Highness Sindia, in exchange for lands near Jhánsi, on the 19th March 1861,[2] handed over the Panch Mahâls to the British Government. In the eighteen years that have since passed three changes have been made in the management of the district. For a little more than three years (March 1861 - May 1864) the Panch Mahâls continued part of the Rewa Kántha Political Agent's charge; they were then transferred to Kaira and placed under the management of an officer styled the First Assistant Collector, and Agent to the Governor.[3] In 1877 a scheme was sanctioned for making the Panch Mahâls a separate collectorship and giving the Collector political charge of the Rewa Kántha states.

Staff.

Though placed under the charge of an Assistant Collector and financially part of Kaira, from their backward state and the poverty and ignorance of the people, the judicial system in force in other British districts has not been introduced into the Panch Mahâls. In criminal matters, courts up to the rank of District Magistrate's courts, are regularly constituted under the provisions of the Criminal Procedure Code. But as Agent to the Governor the powers of a Sessions Judge are vested in the District Magistrate and from his decisions and

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1 Gov. Gen. Agent at Gwalior 444, 28th December 1852. Government of India 2550, 3rd June 1853.
2 Bom. Gov. Letter 1130, 19th March 1861.
3 Bom. Gov. Res. 1658, 30th April 1864.

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Staff.

orders appeals and references lie to Government and not to the High Court. Similarly, in matters of civil justice, an appeal lies from the munsif's decisions to the Agent to the Governor, and from the Agent to Government. The present administrative staff consists of the Agent to the Governor and his assistant in revenue charge of the Godhra and Kálol sub-divisions, who, in criminal matters, is a first class magistrate and in civil matters has power to hear appeals from the decisions of munsifs. There is also a deputy collector with revenue and magisterial charge of the Dohad sub-division.

District Officers.

Since its acquisition the limits of the district have not been changed. The lands are distributed over three sub-divisions, two of them including petty divisions. These form two groups, Godhra and Kálol, with its petty division of Hálol in the west, generally the charge of the covenanted assistant, and Dohad, with its petty division of Jhálod in the east, the charge of the uncovenanted assistant. These officers are also assistants to the extra First Assistant Collector as District Magistrate, and have under his presidency the chief management of the different administrative bodies, local fund and municipal committees, within the limits of their revenue charge. Under the supervision of the extra First Assistant Collector and his assistant or deputy the revenue charge of each fiscal division of the district is placed in the hands of an officer styled mámlatdár. These functionaries, who are also entrusted with magisterial powers, have yearly salaries varying from £150 to £210 (Rs. 1500-Rs. 2100). Two of the fiscal divisions, Kálol and Dohad, contain each a petty division, *peta mahál*, placed under the charge of an officer styled mahálkari. These mahálkaris, except that they have no treasuries to superintend, exercise the revenue and magisterial powers generally entrusted to a mámlatdár. The yearly pay of each of the mahálkaris is £72 (Rs. 720).

Village Officers.

In revenue and police matters the charge of the 638 Government villages is entrusted to 801 headmen, of whom ten are stipendiary and 791 hereditary. 342 of the hereditary headmen perform revenue duties only, and eighty-one attend to matters of police only. Of the stipendiary *patels* one attends to police duty only, while nine stipendiary and 368 hereditary headmen are entrusted with both revenue and police functions. As regards the emoluments of these headmen and of other village servants, except accountants, and yearly or half-yearly messengers, as the whole district has not been surveyed, details are not available.

Village accountants, *talátis*, who under the headmen keep the village accounts and draw up statistical and other returns, number in all 130 or about one accountant for every five villages. Many villages held on proprietary, *tálukdári*, leasehold, or similar tenures have no accountants. Their yearly salaries paid in cash, averaging £14 6*s.* (Rs. 143), vary from £1 16*s.* to £1 (Rs. 18 - Rs. 10), and represent a total yearly charge of £1867 (Rs. 18,670). Under the headmen and accountants are the village servants 766 in number, *rávaniás*, *pagis*, *kotváls*, and *haváldárs*. They are liable both for revenue and for police duties. The messengers, *haváldárs*, are mostly Musalmáns, and the *rávaniás* and others generally Kolis and Bhils.

Except the messengers, most of these servants are paid in land. Till the survey is finished the value of their holdings cannot be ascertained.

Staff.
Village Officers.

The messengers, *haváldárs*, are paid in cash at the monthly rate of 10*s.* (Rs. 5) each. Of these, eleven are employed for the whole year, and 118 for six months, from January to June. The total yearly charge on account of these messengers amounts to £425 (Rs. 4250). The yearly cost of the village establishment who are paid in cash is as follows: Village accountants £1867 (Rs. 18,670) and village servants £425 (Rs. 4250), total £2292 (Rs. 22,920.) This, exclusive of the heavier charges on account of the rent-free lands, represents a charge of £3 11*s.* 10*d.* (Rs. 35-15-0) on each village, or about 8¾ per cent of the entire land revenue of the district.

State of District, 1853.

When (1853) His Highness Sindia handed over the Panch Mahál to British management, the greatest disorder prevailed. For years the district had been in the hands of revenue contractors, who so long as they paid the amount they had bid, were allowed to manage the district as they chose. Under them was a military force, *sibandi*, distributed through the district in outposts, *thánás*. The contractors realized their revenue demands from the heads of single villages, from chiefs and large landowners who held several villages, and from speculators who contracted for the revenue of village groups. In the unsettled state of the district most of the larger landowners and sub-contractors had engaged mercenaries and in several instances had attacked and driven away the chief contractor's militia outposts. As the chiefs seldom willingly paid their tribute sureties were required. These in the absence of any body of rich merchants were generally men in a high position in the chief contractor's forces. In return for their service as sureties these mercenaries exacted interest from the chiefs at from 24 to 36 per cent, and if he could not pay billeted on him a certain number of men.[1] This was the general state of things in all parts of the

[1] The following are examples. The Thákor of Sonipur south-east of Pávágad a proprietor of forty villages chiefly waste was indebted to the leaders of two mercenary gangs. One had a claim of £439 (Rs. 4390) and until this was cleared the estate had, at a yearly cost of £54 (Rs. 540), to keep him and his men. The other creditor claimed £511 (Rs. 5110) and failing payment was entitled to support at a yearly cost of £52 (Rs. 520). Together the two charges came to £106 (Rs. 1060) on an estate whose whole yearly revenue was not more than £160 (Rs. 1600). To help to free him from debt this chief was, on the security of his land, granted a loan of £83 (Rs. 830).

The Thákor of Kanjeri was indebted to three different leaders of mercenaries whose claims amounted to £790 (Rs. 7900), the cost of whose keep was £193 (Rs. 1930). He was granted a loan of £330 (Rs. 3300) on security of his lands.

The Thákor of Bhimaria, a mere boy without male relatives, was deeply in debt. One Jamádár had a claim upon him for £298 (Rs. 2980) for which he was entitled to receive in wages £54 (Rs. 540) a year.

The Thákor of Mehlol, a man of extreme imbecility, was heavily in debt particularly to two leaders of mercenaries who kept him almost a prisoner in his own house. To one he owed £586 (Rs. 5860) and to the other £50 (Rs. 500) and he was obliged to pay them in wages £142 (Rs. 1420) a year. Government took charge of the estate and guaranteed the repayment of the loan at 6 per cent interest.

The Zamindár of Tánda was indebted for loans of money and arrears of pay to the extent of £969 (Rs. 9690); he was bound to pay £120 (Rs. 1200) a year to these men. On the security of his lands he was granted a loan of £303 (Rs. 3030.)

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State of District, 1853.

district. In Dohad other causes made the disorder more complete. A large number of the villages had been farmed to some families of Vanjárás. In their exactions the farmers encroached on the private lands of some Rajputs, who finding no redress and, having one of their number ill-used by the Vanjárás' mercenaries, went into outlawry, and capturing the Vanjára killed him. To avenge his death the Vanjárá's relations collected mercenary troops, and disorders were increased by the attacks of some village headmen who had joined the outlaws. So loud were the complaints that Sindiá's Government sent a special agent to quiet the country. The agent allowed the outlaws to return to their villages, but left without making any settlement with the Vanjárás. They, intent on vengeance, raised fresh troops and seized two of the outlaws. At this time the management of the district was made over to the British. At first the Vanjára became more insubordinate. He refused to give up his prisoners or to disband his followers, and would neither pay revenue nor let it be collected. He attacked a Government post and rescued a thief from the custody of the police. On news of these disorders the Political Agent, with a special escort of fifty men, advanced to Godhra. And the Vanjárás and other malcontents finding that the British Government had taken charge of the district, came in and except one Jamádár who absconded, and a few who refused to give security, submitted their disputes to be settled by the Political Agent. In their new agreements the larger land-holders engaged to employ no armed persons without the sanction of the Political Agent, and by making them advances on the security of their estates, help was given to those who would take it, to compound the Jamádárs' claims.[1]

Revenue System, 1853.

When the management of the district was made over to the British, the chief revenue contractor recovered the revenue by several different systems of settlement. Except those in the hands of the larger land-holders, who paid a lump sum fixed by a guess at their probable revenue, most villages were represented by their headman who was made responsible for an amount fixed on a rough calculation of what the village could pay, and what it had before paid. Other villages were let in groups to sub-contractors on five-year leases, with yearly increasing rents. In other cases the division of crops and levy of a plough cess fixed by the district revenue superintendent or *desái*, varied according to the caste of the cultivator from 4*s.* to £1 10*s.* (Rs. 2-Rs. 15) a plough, or, at the rate of seven acres (15 *bighás*) to a plough, a *bigha* rate of from 3*d.* to 2*s.* (2 *annas*-Re. 1). When spice, sugarcane, and other rich crops were grown, an extra cess was levied. In villages where a division of crops was in force the Government share varied from a third to a half.

Proprietary Villages.

Under British management the position of the large landlords, Thákors and Tálukdárs, has as far as possible been left unchanged. These proprietors are chiefly Kolis, locally known as Thákors and Tálukdárs. Their estates, varying in size from a share in one village

[1] Pol. Agent to Gov. 21st Dec. 1853.

Revenue System, 1853.

to a group of forty or fifty villages, are pretty generally distributed over the whole of the Panch Mahâls, and are perhaps most numerous in the western sub-divisions. The steps taken in 1853 to free them from their bondage to the leaders of the mercenary troops were for the time successful. But their carelessness and want of thrift, together with their practice of dividing their lands equally amongst all the members of the family, have led to many of them falling into a state of much poverty. The only villages of this class into which any change has as yet been introduced, are twenty-three Kálol *mehvási* villages, whose lands were surveyed and their Government rental fixed in 1873.[1] In other parts of the district the rental paid at the introduction of British rule has been continued. The landlord's relations to his tenants have in no way been changed. There is no fixed system of recovering rents. The mode of realizing them, and the amount realized, differ not only in the various estates, but even in different villages in the same property. In one respect the practice would seem to be the same over the whole district, the proprietor never turns out his tenant.

Alienations.

One point that very early came to notice in the management of Government, *khálsa*, villages was the very large area of alienated land.[2] An inquiry made in 1853-54 showed that the possession of much of this land was supported by no regular title deeds, and, where deeds were produced, they showed that the land had been bought or taken in mortgage from people who had paid the Government assessment or were bound to perform certain services. The results of this inquiry were laid before His Highness Sindiá's Government. But as they did not approve of such a course no steps were taken to resume illegal alienations.[3] In 1865 claims to alienations were registered and classified. And in 1872 a set of rules was drawn up for the settlement of claims.[4] These rules provided that lands alienated for religious or charitable purposes should be continued, either if their value was allowed for in the exchange of territory with Sindia, or if between 1853 and 1860, they were recognized as rentfree; that personal grants free from a stipulation of service should on payment of one-eighth of the full rental be continued, either if their value was allowed for in the exchange with Sindia, or if between 1853 and 1860 they were recognized as rentfree and registered in 1865; that unless the claim seemed entirely unfounded, lands registered in 1865 should be continued on payment of a quitrent of one quarter to one half of the survey assessment; that village officers' claims should be settled under the rules for village officers' emoluments; and that, unless one

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[1] As the holders refused the conditions offered by Government, the villages have been (1878) made *khálsa* or Government.

[2] The following details show how much of the Panch Mahâls land is nominally alienated. In Kálol (1856) a survey of 22 villages showed 29,206 *bighás* of rentpaying and 15,203 of quit or rentfree land (Major Wallace 71A., 12th September 1856); in Godhra (1860) of 52,127 *bighás* surveyed, 24,367 were quit or rentfree; the survey of the whole of Kálol (1871) shows of 80,651 acres, 19,047 quit or rentfree, and the Godhra (1874) survey shows 25,389 out of 101,925.

[3] Major Buckle 811, 6th December 1860.

[4] Gov. Res. 4656, 19th September 1872.

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of them proved his right in a civil court, land claimed by several persons but not in the possession of any of them, should be fully assessed. Under these rules, since 1872, the alienations are being gradually settled.

For the collection of rents from Government lands, when the headman was unwilling to become responsible, an accountant was appointed and their rents recovered from the cultivators direct. In other respects the systems in force at the time of transfer were for some years continued unchanged. Between 1855 and 1858 some villages of Godhra and Kálol were roughly surveyed, and with the view of introducing a cash acre-rate, experienced headmen were brought from Kaira, and fields classified according to the quality of their soil, their position, and the caste of their cultivators. But the change was limited in Godhra to the town and five villages, and in Kálol to the town and fifteen villages.

Survey System.

When, in 1861, they became a British district the Panch Mahâls were thought too backward for the regular survey. Since then as tillage has spread and the district become more settled, the survey has been introduced, into Kálol in 1871 and into Godhra in 1874. Dohad has also been surveyed. But as the two last seasons have been unfavourable, the new rates have not yet been introduced. The result of the introduction of survey rates into Kálol was in the best dry crop lands a slight acre rise from 5*s.* 11⅜*d.* to 6*s.* (Rs. 2-15-7—Rs. 3) ; in the best garden lands a fall from £2 19*s.* 3½*d.* to 18*s.* (Rs. 29-10-4—Rs. 9), and in the best rice lands a rise from 11*s.* 10⅞*d.* to £1 4*s.* (Rs. 5-15-3—Rs. 12). In Godhra all the rates were lowered; the best dry crop from 5*s.* 11⅛*d.* to 3*s.* 6*d.* (Rs. 2-15-5—Rs. 1-12-0), the best garden from £1 14*s.* 0⅜*d.* to 6*s.* (Rs. 17-0-3—Rs. 3), and the best rice from 10*s.* 4⅝*d.* to 7*s.* 6*d.* (Rs. 5-3-1—Rs. 3-12-0.) The financial result was in Kálol an increase from £4603 16*s.* 6¾*d.* (Rs. 46,038-4-6) to £5484 2*s.* (Rs. 54,841) or 19 per cent, and in Godhra from £3916 2*s.* (Rs. 39,161) to £3927 9*s.* 10½*d.* (Rs. 39,274-15) or 0·29 per cent. The following two statements give the chief details :

Panch Mahâls Survey Rates, 1871-1873.

Sub-division.	Former Acre Rates.					
	Dry-crop.		Garden.		Rice.	
	Max.	Min.	Max.	Min.	Max.	Min.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Kálol	2 15 7	1 1 10	29 10 4	5 3 4	5 15 3	2 3 3
Godhra	2 15 5	1 1 10	17 0 3	17 0 0	5 3 1	2 3 6
	Present Acre Rates.					
Kálol	3 0 0	1 4 0	9 0 0	5 4 0	12 0 0	5 4 0
Godhra	1 12 0	0 8 0	3 0 0	0 8 0	3 12 0	1 0 0

Panch Mahál Land Revenue, 1871-1873.

Sub-division.	Ten years' average collections.	Collection of the year before settlement.	Old System.		Survey System.		Per-centage Increase
			Collections.	Rate per cultivated acre.	Collections.	Rate per acre of survey holdings.	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Kálol ..	40,218 2 10	46,038 4 6	46,038 4 6	1 8 3	54,841 0 0	1 12 7	19
Godhra ..	40,025 0 0	39,161 0 0	39,161 0 0	0 10 8	39,274 15 0	0 10 9	0·29

Waste Lands.

Since the district came under their control, one of the chief aims of British officers has been to attract settlers to the Panch Mahál waste lands. In 1862 the Political Agent was of opinion that, on account of the wild Náikda neighbourhood, and because of its unhealthy climate, there was little chance of getting strangers to settle in Hálol, and that Kálol in the west, and Dohad and Jhálod in the east, offered settlers inducement enough without any special help from Government. To Godhra, he thought, some effort should be made to attract colonists. Accordingly an agent on £2 (Rs. 20) a month was for one year employed to collect colonists,[1] and small settlers, on their promise to build good houses and not leave the district for ten years, were offered timber and land rentfree for two years, the rent rising to one-quarter in the third, one-half in the fifth, three-quarters in the seventh, and full rates in the ninth year. A settler able to found a village was, if he wished it, to be made headman, and for every ten acres (twenty *bighás*) brought under tillage, was to receive one acre rentfree.[2] In 1864 lands were offered at 1*s.* a *bighá* with, if they were covered with brushwood, remission for one year, and to encourage new villages, Government promised to help the founders by granting timber and by sinking a well. These terms failed to tempt colonists, and in 1866 to small settlers land was offered rentfree for three years and then for four more at half the regular assessment.[3] In addition to these concessions, large settlers were, for every twenty *bighás* brought under tillage within seven years,[4] offered the gift of one *bigha* of rentfree land. Under these terms in the three following years a considerable number of settlers took up land.[5] But they were all poor men, chiefly Bhils and Kolis. As yet the offer was not tempting enough to overcome the dislike of Kanbis of position and capital to leave Kaira for the wild and unhealthy Mahál. A new set of rules was accordingly drawn up[6] in 1870. With some slight changes they are still in force. These rules provide:

1 Bom. Gov. Res. 1758, 2nd May 1862.
2 Bom. Gov. Res. 1758, 2nd May 1862.
3 Bom. Gov. Res. 1891, 23rd May 1866.
4 Bom. Gov. Res. 2065, 21st May 1869.
5 Leases were given under the rules of 1866 for colonizing several deserted villages such as Chandan, Isarvádi, Chabanpur, and Salisámli in the Godhra sub-division.
6 Bom. Gov. Resolutions Nos. 5834, 26th November 1870; 3784, 3rd July 1873, and 4641, 17th August 1875.

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Waste Lands.

That colonists bringing large bodies of settlers should receive from 50 to 5000 acres of land; that they should hold it rent-free for five years, and then pay 6*d.* (4 *as.*) an acre till the tenth year, then 1*s.* 6*d.* (12 *as.*), or if less, the survey rate, till the twenty-fifth year when the land would be re-assessed; that every fifth year an additional fourth of the whole area should be brought under tillage, and that security should be furnished. Grants of rentfree land were also promised,[1] the trees were with few exceptions handed over to the settler, and provision made for Government aid in building village offices and wells.

Small settlers were at the same time offered grants of land up to fifty acres rentfree for five years.

Though even these inducements have not been enough to bring any large number of the better class of settlers into the Panch Mahâls, steady but slow progress has been made. An account has already been given (page 227) of the arrival in 1877 of a large body of colonists to settle in the rich lands near Pávágad. This, in spite of very great difficulties, has to some extent proved a success and has cleared of forest and brushwood a large tract of rich land. The opening of the railway to Páli has greatly lessened the distance between the western parts of the district and central Gujarát, and with more prosperous seasons than the two last, a steadily increasing number of colonists may be looked for.

Transit Dues.

Attention was early directed to the question of transit duties. Under His Highness Sindiá's management the customs of each subdivision were separately farmed. In different parts of the district the same goods were charged different rates. Merchandize passing by one route paid more than by another. Some classes of carriers were charged the full amount, while others were so favoured as to have practically a monopoly. Between 1855 and 1858 the duties were lowered and the mode of collecting them simplified. Instead of being annoyed by constant petty demands, the trader might, with one payment, pass through the whole of Panch Mahâls and Báriya territory. Town dues were abolished, grain and salt freed, and many petty taxes[2] repealed. Under the new system traffic increased so greatly that, in spite of the lower rates, the revenue rose from £3632 (Rs. 36,320) in 1858 to £7819 (Rs. 78,190) in 1861.[3]

With this large revenue as a local fund, roadmaking was rapidly pressed on. But under the orders of Government with the

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[1] Colonists taking 500 acres were allowed a personal grant of twenty acres; those taking from 500 to 700 acres, thirty acres; those from 700 to 900 acres, forty acres; those from 900 to 1000 acres, fifty acres, and 5 more for every additional 100 acres. This grant was to be first made ten years after the land was taken up, and would be in proportion to the land brought under tillage. Further grants were promised in the same manner at the close of the fifteenth and twentieth years.

[2] Among those repealed were cesses on braziers, butchers, carpenters, on the sale of molasses, on marriages, on foreign traders, on brokers, on brickmakers, on empty carts and unladen bullocks, on raw cotton and on vegetable sellers. Major Wallace, 71 A., 12th September 1856.

[3] The details are, opium Rs. 10,377, timber Rs. 16,183, and other articles Rs. 51,630; total Rs. 78,190.

introduction of the revenue survey the levy of transit dues ceases and the ordinary local fund cess takes its place. This change has for the present caused a great loss of revenue.

The following are the chief details of the fourteen years ending 1877:

In 1864 the rainfall, twenty-five inches, was scanty, beginning late and ending early. Rice failed almost entirely and maize partially. The district suffered from cholera. The revenue for collection amounted to £22,125 (Rs. 2,21,250) and remissions to £789 (Rs. 7890). The outstanding balance at the end of 31st July 1865 was £1654 (Rs. 16,540). Millet [1] rupee prices rose from twenty-six to sixteen pounds.

In 1865 the rainfall, twenty-five inches, was unseasonable and scanty. But except rice, the crops were fair. Cholera of a fatal type was common. Tillage spread and the land revenue rose from £22,125 to £22,996 (Rs. 2,21,250 - Rs. 2,29,960). £24 (Rs. 240) were remitted and £1713 (Rs. 17,130) left (31st July 1866) outstanding. Millet rupee prices fell from sixteen to twenty pounds.

In 1866 the rainfall, thirty inches, though too soon over was sufficient. The crops were good, and there was no epidemic disease. The land revenue rose from £22,996 to £23,457 (Rs. 2,29,960-Rs. 2,34,570). £30 (Rs. 300) were remitted and £266 (Rs. 2660) left (31st July 1867) outstanding. Millet rupee prices fell from twenty to thirty-one pounds.

In 1867 the rainfall, twenty-nine inches, was heavy especially in the west. The crops and public health were good. The land revenue £23,458 (Rs. 2,34,580) was recovered without remissions or outstandings. Millet rupee prices rose from thirty-one to twenty-five pounds.

In 1868 the rainfall, thirty-five inches, began very early especially in the west and was at first very heavy. But the late rains failed and rice, millet, and some other grains were not more than half crops. Public health was good. The revenue rose from £23,458 to £24,767 (Rs. 2,34,580 - Rs. 2,47,670). £91 (Rs. 910) were remitted and £19 (Rs. 190) left (31st July 1869) outstanding. Millet rupee prices fell from twenty-five to twenty-eight pounds.

In 1869 the rainfall, forty-three inches, though heavy was unseasonable. Except millet and maize the crops were good. In the hot months there was a bad outbreak of cholera. Land revenue rose from £24,767 to £26,636 (Rs. 2,47,670 - Rs. 2,66,360). £93 (Rs. 930) were remitted and £415 (Rs. 4150) left (31st July 1870) outstanding. Millet rupee prices rose from twenty-eight to twenty-two pounds.

In 1870 the rainfall, forty-one inches, was unseasonable, millet and maize yielding not more than half crops. Of £26,192 (Rs. 2,61,920)

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1 Millet is *bájri*, Penicillaria spicata.

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the land revenue for collection, £161 (Rs. 1610) remained outstanding at the end of the year. Millet rupee prices fell from twenty-two to twenty-six pounds.

Season Reports, 1864-1877.

In 1871 the rainfall, forty inches, was capricious. In the west it did not begin till the close of July, and throughout the district was too soon over. Except maize all the crops suffered. Public health was good. Of £27,043 (Rs. 2,70,430) the land revenue for collection, £11 (Rs. 110) were remitted and £470 (Rs. 4700) left (31st July 1872) outstanding. Millet rupee prices fell from twenty-six to twenty-seven pounds.

In 1872 the rainfall, thirty-five inches, was seasonable and sufficient. Of £26,523 (Rs. 2,65,230) the land revenue for collection, £94 (Rs. 940) were remitted and £214 (Rs. 2140) left (31st July 1873) outstanding. Millet rupee prices fell from twenty-seven to thirty-two pounds.

In 1873 the rainfall, twenty-eight inches, at first favourable was too soon over and the crops, especially rice, suffered. Public health was good. Of £25,715 (Rs. 2,57,150) the land revenue for collection, £2671 (Rs. 26,710) were left (31st July 1874) outstanding. Millet rupee prices fell from thirty-two to forty pounds.

In 1874 the rainfall, thirty-six inches, began rather late but afterwards was seasonable and sufficient with a good harvest, especially of rice. Public health was good. Of £26,109 (Rs. 2,61,090) the land revenue for collection, £197 (Rs. 1970) were remitted and £56 (Rs. 560) left (31st July 1875) outstanding. Millet rupee prices fell from forty to forty-eight pounds.

In 1875 the rainfall, thirty-eight inches, was seasonable and favourable. The crops were excellent and public health good. Of £26,497 (Rs. 2,64,970) the land revenue for collection, £48 (Rs. 480) were remitted and £82 (Rs. 820) left (31st July 1876) outstanding. Millet rupee prices fell from forty-eight to fifty-four pounds.

In 1876 the rainfall, forty-four inches, was very heavy. The harvest was fair and public health good. Of £26,924 (Rs. 2,69,240) the land revenue for collection, £34 (Rs. 340) were remitted and £19 (Rs. 190) left (31st July 1877) outstanding. Millet rupee prices rose from fifty-four to forty-six pounds.

In 1877 the rainfall, nineteen inches, was short and unseasonable. Public health was good. But the scarcity was so severely felt among the poorer classes that towards the end of the season relief camps had to be opened. The rain harvest was scanty and the cold weather crops almost entirely failed. Of £26,052 (Rs. 2,60,520) the land revenue for collection, £27 (Rs. 270) were remitted and £4609 (Rs. 46,090) left (31st July 1878) outstanding. Millet rupee prices rose from forty-six to thirty-six pounds.

Development.

During the twenty-two years ending 1877 population has increased from 143,595 in 1855 to 240,743 in 1872, or an advance of 67·65

per cent; cattle from 173,859 in 1857, to 254,262 in 1877, or 46·24 per cent; ploughs from 18,303 in 1857, to 37,141 in 1877, or 102·92 per cent; and carts from 6129 in 1857, to 8349 in 1877, or 36·22 per cent. The land revenue has risen from £21,410 (Rs. 2,14,100) in 1864 to £26,025 (Rs. 2,60,250) in 1878, or 21·55 per cent. Since 1864 two municipalities, one dispensary and twenty-nine schools have been established and 170 miles of road have been opened.

CHAPTER IX.

JUSTICE.

Chapter IX. Justice.

Former System.

In Sindiá's time the settlement of civil disputes and the punishment of crime, were in the hands of the farmers of revenue, or of the Agent sent from Gwálior. At the introduction of British rule, under the Political Superintendent and his assistant, *mámlatdárs* settled civil suits. The police was in the hands of an officer, *amaldár*, who in big matters reported straight to the Political Superintendent and had power to imprison for fifteen days. The police *amaldár* was under the general control of a *mámlatdár* who could imprison for one month and fine up to £2 10*s.* (Rs. 25.) The assistant superintendent could give twelve stripes, imprison for six months, and fine up to £10 (Rs. 100). Heavier cases went to the Superintendent. From time to time steps were taken to introduce the British system, and at present the working of the courts is guided by the criminal and civil laws in force in other British districts.

Present Staff.

Civil.

For the disposal of civil suits there are at present two subordinate judges, styled *munsifs*, one at Godhra and one at Dohad. The Godhra *munsif* tries all Godhra, Kálol, and Hálol suits, and the Dohad *munsif* those of Dohad and Jhálod. Appeals from their decisions lie to the court of the Governor's Agent, and are by him generally transferred to his covenanted assistant who has power to hear them and whose decisions are subject to an appeal to Government.

Criminal.

For the disposal of criminal cases there are officers of three grades: the Agent to the Governor; the first class magistrates, and the subordinate magistrates. The Agent has the powers of a Sessions Judge, sentences of death being submitted for the confirmation of Government. The covenanted assistant has the powers of an assistant sessions judge. Other first class magistrates and the subordinate magistrates have the powers ordinarily vested in officers of those grades. The criminal codes and laws have not been introduced into the district, but all inquiries are conducted in their spirit; punishments are inflicted under the provisions of the Penal Code, and all laws extended to the whole of British India are held to apply to the Panch Maháls.

Civil Statistics.

In 1854 the district was furnished with seven judges, who decided 375 suits.[1] Six years later (1860) the number of courts remained the

[1] The number and value of the suits disposed of between 1855 and 1860 are: in 1855, 568 valued at £2433; in 1856, 663 valued at £2515; in 1857, 885 valued at £5020; in 1858, 967 valued at £5066; in 1859, 1022 valued at £3213; and in 1860, 1348 valued at £4959. The average value of the suits decided during the eight years ending 1877 was, except in 1876, on the increase, the figures ranging between £5 14*s.* 9*d.* (Rs. 57-6) in 1870 and £6 16*s.* 9*d.* (Rs. 68-6) in 1877.

same, while the number of suits rose to 1348. In 1870 the number of courts was reduced to four, while the number of suits rose to 1758. In 1877 there were four courts and 1353 decisions. Of the four courts, two, those of the Agent and of his assistant, exercise appellate powers and try suits of more than £500 (Rs. 5000).

Each of the two *munsifs'* courts has an average area of 797 square miles and a population of 120,371 souls. The average distance of the Godhra court from the six most distant villages of its jurisdiction is thirty miles, and that of the Dohad court nineteen. The average number of cases decided during the eight years ending 1877 was 1706; the highest was 1854 in 1873 and the lowest 1353 in 1877.

Of the total number of cases decided during the eight years ending 1877, 33·29 per cent have on an average been given against the defendant in his absence. The proportion of cases decided in this way would seem to have, during the same period, varied between 37·26 in 1872 and 29·68 in 1876. Of contested cases only 19·35 per cent have, during the eight years ending 1877, been on an average decided for the defendant. With the exception of 1870 and 1871 when it was 25·35 and 22·80 per cent respectively, the proportion of cases decided in favour of the defendant varied during the same period of eight years, between 10·15 per cent in 1872 and 21·52 per cent in 1876. In only four cases, or 0·29 per cent of the whole number of suits decided in 1877, was the decree executed by putting the plaintiff in the possession of the immovable property claimed. Except in 1876, when it was twenty-four, the number of cases of this kind during the eight years ending 1877 varied from two in 1872 to nine in 1874. In 12·04 per cent of the decisions passed in 1877, decrees for money due were executed by the attachment or sale of property; of these 5·54 per cent were, on an average, by the attachment or sale of movable and 6·50 per cent of immovable property. Compared with 1870, the 1877 returns of attachments or sales of movable and immovable property show a rise from thirty-one to seventy-five in the former and from thirty-five to eighty-eight in the latter.

Ex-parte Decrees, 1870-1877.

Year.	Suits.	Decreed Ex-parte.	Percentage.
1870 ...	1758	614	34·92
1871 ...	1614	538	33·33
1872 ...	1763	657	37·26
1873 ...	1854	611	32·95
1874 ...	1733	618	35·66
1875 ...	1754	553	31·52
1876 ...	1816	539	29·68
1877 ...	1353	413	30·52
Total ...	13,645	4543	33·29

Debtors.

Compared with 1870, the number of decrees executed by the arrest of the debtor has fallen from 303 in 1870 to 130 in 1877. The number of civil prisoners has, except in 1872 and 1876 when it was sixty-three and 215 respectively, risen from ninety-six in 1870 to 130 in 1877:

Chapter IX. Justice.

Civil Statistics.

Panch Mahâls Civil Prisoners, 1870-1877.

Year	Prisoners.	Days in jail.	Releases. By satisfying the decree.	At creditor's request.	No subsistence allowance.	Disclosure of property.	Time-expiry.	Caste. Hindus.	Musalmáns.	Pársis.	Others.	Calling. Husbandmen.	Craftsmen.	Labourers.
1870	96	10	3	87	6	...	...	82	14	...	..	78	17	1
1871	97	10	5	80	5	7	..	89	8	..	...	76	20	1
1872 ...	63	8	6	50	...	7	...	58	5	...	...	48	13	2
1873 ...	90	8	14	60	11	5	...	75	15	..	...	53	35	2
1874	87	7	23	53	7	4	...	78	9	..	...	56	25	6
1875	110	7	55	50	5	...	...	87	17	..	6	70	40	...
1876	215	8	96	102	12	5	...	189	22	...	4	144	70	1
1877	130	8	70	45	3	3	3	122	8	...	...	...	...	...

Civil Courts, 1870-1877.

The following statement shows in tabular form the working of the district civil courts during the eight years ending 1877 :

Panch Mahâls Civil Courts, 1870-1877.

Year.	Suits settled.	Average value.	Uncontested. Decreed ex-parte.	Dismissed ex-parte.	Decreed on confession.	Otherwise settled.	Total.	Contested. Judgment for plaintiff.	Judgment for defendant.	Mixed.	Total.	Execution. Arrest of debtor.	Decree-holder put in possession of immovable property	Attachment or sale of property. Immovable.	Movable.
		£. s. d.													
1870 ..	1758	5 14 9	614	48	464	419	1545	150	54	9	213	303	6	35	31
1871 ..	1614	6 11 1	538	33	470	323	1364	179	57	14	250	200	6	20	11
1872 ..	1763	6 7 6	657	60	571	277	1565	160	20	17	197	138	2	56	70
1873 ..	1854	6 7 5	611	54	578	334	1577	198	52	27	277	149	5	68	132
1874 ..	1733	5 13 8	618	32	313	370	1333	257	82	61	400	105	9	99	99
1875 ..	1754	5 17 6	553	9	333	514	1409	250	48	47	345	110	6	403	135
1876 ..	1816	5 8 0	539	3	324	597	1463	169	76	108	353	215	24	653	117
1877 ..	1353	6 16 9	413	14	252	375	1054	167	63	69	299	130	4	88	98

Registration.

Five officers, one at each of the sub-divisions, are entrusted with the work of registration. Except the sub-registrar of Godhra who is special, these officers are the mámlatdárs' or mahálkaris' head clerks. Besides that of the First Assistant Collector as district registrar and of his assistant or deputy, a special scrutiny is, under the control of the Inspector General of registration and stamps, carried on by the Gujarát registration inspector. The registration returns for 1877-78 show receipts of £125 (Rs. 1250) and charges of £160 (Rs. 1600), or a loss of £35 (Rs. 350). Of 444 the total number of registrations four were wills, six were papers affecting movable and 434 affecting immovable property. Of the last class, besides sixty-three miscellaneous instruments, six were deeds of gift, 218 were deeds of sale and 147 were mortgages. The registered value of the total immovable property transferred was £15,876 (Rs. 1,58,760).

Chapter IX. Justice. Criminal Justice. *Staff, 1878.*

At present (1878) ten officers share the administration of criminal justice. Of these three are magistrates of the first class, and seven of the second and third classes. Of the former two are covenanted European civilians and one an uncovenanted Native. With regard to the local jurisdiction and powers of these magistrates, one of them, the Agent to the Governor, is placed in a special position, vested with the general supervision of the district. Each of the other two first class magistrates has an average charge of 797 square miles and a population of 120,371 souls. In the year 1876 the three first class magistrates decided 179 original and ninety-six appeal cases. These officers have as First Assistant Collector, and his assistant and deputy, revenue charge of the parts of the district over which they exercise magisterial powers. Of subordinate magistrates there are seven with an average charge of 228 square miles and a population of 34,391 souls. All are Natives. The total number of criminal cases decided by them in 1876 was 678. Besides their magisterial duties, five of these officers exercise revenue powers as mámlatdárs and mahálkaris and one is a sub-registrar of assurances. There are at present no regular village police; the matter is now under the consideration of Government.

Offences, 1871-1877.

The table of offences given below shows that during the seven years ending 1877, 983 offences or one offence for every 244 of the population were on an average committed. Of these there were on an average six murders and attempts to murder; three culpable homicides; nineteen cases of grievous hurt and hurt by dangerous weapons; eighteen cases of dacoity and robbery; 936 or 95 per cent of the whole were minor offences.

Police, 1853-1877.

At the time of the transfer of the Panch Mahál (1853) there were many gang robberies and murders committed by large bands of Bhils belonging to different states and almost impossible to catch.[1] At first the number of offences reported was small. But gradually instead of taking the law into their own hands, the people began to seek police help, and in spite of greater efficiency the number of recorded crimes steadily increased from 496 in 1854 to 1186 in 1860.[2] The chief cause of the failure to put down crime was the ease with which bands of unsettled Bhils and Náikdás could come, and carrying off cattle, pass out of the Panch Mahál. Once over the borders the robbers were safe, for there were no arrangements for recovering criminals from the neighbouring states. An attempt was made to supply this want by the occasional meeting of the Rewa Kántha Political Agent and an assistant of the Meywár Political Agent. But this system, never satisfactory, was given up in 1864 and since 1872 the recovery of offenders has been secured under the Extradition Act (XI. of 1872).

Under the management of His Highness Sindia, there was no regular police force. For the maintenance of order the district

[1] Major Wallace 145, 13th May 1856.

[2] The total number of offences was 496 in 1854; 839 in 1855; 1009 in 1856; 980 in 1857; 883 in 1858; 1031 in 1859; and 1186 in 1860.

Chapter IX. Justice. Police, 1853-1877.

was divided among officers styled *jamádárs*, each of whom was paid a lump sum from the Gwálior treasury and was expected to keep a certain number of armed men, distributed over his share of the district. There was also a detachment of mounted militia, *sibandi*. After the transfer of the district, on account of disorders and of the unruly character of so many of the people, it was thought advisable to raise an armed force of Bhils. With the Khándesh force as its model the Panch Maháls Bhil corps had in 1858, exclusive of establishment, a sanctioned strength of ten *subhedárs*, ten *jamádárs*, fifty *haváldárs*, fifty *náiks*, one bugle major, ten buglers, and 800 privates, total 931. Its head quarters were fixed at Dohad, where lines for 600 men were built. The Bhil corps was a success. In 1860, though in Hálol and Kálol on the west cattle-lifting was still a common offence, in Dohad and Jhálod, where they had formerly been most rife, offences of this class had nearly ceased.[1] In 1861 it was found most useful in forest fighting and wonderfully cheap and effective for outpost duty.[2] In 1867, as the district was much more settled, the sanctioned strength of the corps was reduced from 931 to 429 men. But in the next year, with its reduced strength, the corps was unable to put down the Náikda rising, and its numbers were raised to their present total of 500 men. At present (1877) two-thirds of the corps are Bhils and Kolis and the rest Maráthás and Pardesis. The discipline is semi-military and the men are in appearance well drilled and soldier-like. The uniform is a forage cap with bugle ornament, a dark blue tunic with red facings, and brown, *khárki*, coloured pantaloons. They are armed with Saffer's carbines and sword bayonets. Almost half the corps is employed on outpost duty. They guard mámlatdárs' and mahálkaris' offices, furnish escorts to district officers, and are scattered in a number of small posts, *thánás*, in different parts of the district.

Cost, 1877.

In the year 1877 the total strength of the district or regular police force was, including the Bhil corps, 824. Of these, under the district and assistant district Superintendents of police, two were subordinate officers, 111 inferior subordinate officers, thirty-six mounted police, and 673 constables. Besides these, a force of six officers and thirty constables was employed as an escort to the Political Agent, Rewa Kántha. The cost of maintaining the entire district police force was as follows: The two European officers, the Superintendent and assistant superintendent received a total yearly salary of £993 (Rs. 9930); the subordinate officers a yearly salary of not less than £120 (Rs. 1200) each, and the inferior subordinate officers a yearly salary of less than £120 (Rs. 1200) each, or a total yearly cost of £2652 4*s.* (Rs. 26,522); the pay of the mounted police and of the foot constables came to a total sum of

[1] Pol. Agent 811, 6th December 1860.
[2] Pol. Agent 212, 30th April 1861.
[3] The details are: 3 *subhedárs*, 6 *jamádárs*, 18 *haváldárs*, 36 *náiks*, and 437 privates. Besides these, 36 men employed under the Rewa Kántha Political Agent, form part of the Bhil corps.

£7164 6*s.* (Rs. 71,643). Besides the pay of the officers and men, there was a total yearly sum of £497 14*s.* (Rs. 4977) allowed for the horses and travelling expenses of the superior officers; £300 2*s.* (Rs. 3001) yearly pay and travelling allowance for their establishments, and £554 16*s.* (Rs. 5548) a year for contingencies and other expenses, making a total yearly cost of £12,162 2*s.* (Rs. 1,21,621).[1] Taking 1595 square miles as the area of the district and 240,743 as its population, the strength of the Panch Maháls' police is one man to every 0·51 square miles and 292 souls. The cost of maintenance is equal to £7 12*s.* 6*d.* (Rs. 76-4-0) a square mile, or nearly 1*s.* (8 as.) a head of the population.

Exclusive of the Superintendent, the assistant superintendent, and the force of thirty-six policemen under the Political Agent Rewa Kántha, of the total strength of 822 police, 166, of whom twenty-one were officers and 145 constables, were in 1877 employed as guards at district, central, or subsidiary jails; 140, of whom fourteen were officers and 126 constables, were engaged as guards over lock-ups and treasuries, or as escorts to prisoners and treasure; 486, of whom seventy-four were officers and 412 constables, were engaged on other duties; and thirty, of whom four were officers and twenty-six constables, were stationed in towns and municipalities. Of the whole number of 822, exclusive of the Superintendent and assistant superintendent of police, 566 were provided with fire-arms, and 256 with swords only, or with swords and batons; 196, of whom sixty-four were officers and 132 constables, could read and write; and 199, of whom twelve were officers and 187 constables, were under instruction. Except the two superior officers who were Europeans, the members of the police force for whom details were available were all natives of India. Of these, twenty-six officers and 186 constables were Musalmáns; one officer was a Pársi; ten officers and fifty-five constables were Bráhmans; five officers and thirty constables were Rajputs; forty officers and eighty-one constables were Maráthás; seventeen officers and 250 constables were Bhils; three officers and forty-seven constables were Kolis; and ten officers and fifty-three constables were Hindus of other castes. There were six vacancies and for the thirty-six men employed in the Rewa Kántha, the information was not given.

Working, 1877.

In 1877 of 119 persons accused of heinous crimes, eighty-one or 68·06 per cent were convicted. Of 2039 the total number of persons accused of crimes of all sorts, 1572 or 77·09 per cent were convicted. In the matter of the recovery of stolen property, of £1781 2*s.* (Rs. 17,811) alleged to have been stolen, £727 8*s.* (Rs. 7274) or 40·8 per cent were recovered.

Crime and Police, 1871-1877.

The following table gives the chief crimes and police details of the seven years ending 1877:

[1] Of this sum £385 (Rs. 3850) on account of the police employed under the Political Agent, Rewa Kántha, were paid from local funds.

Chapter IX.

Justice.

Crime and Police, 1871-1877.

Panch Mahâls Crime and Police, 1871-1877.

Year.	Offences and Punishments.															
	Murder and attempt to Murder.				Culpable Homicide.				Grievous hurt and hurt by dangerous weapons.				Dacoities and Robberies.			
	Number.	Arrests.	Convictions.	Percentage.	Number.	Arrests.	Convictions.	Percentage.	Number.	Arrests.	Convictions.	Percentage.	Number.	Arrests.	Convictions.	Percentage.
1871	4	5	2	40	...	...	...	...	23	38	4	10·5	13	30	11	36·6
1872	5	5	5	100	6	14	4	28·5	15	30	21	70	14	17	15	88·2
1873	7	15	4	26·6	5	6	2	33·3	19	37	11	29·7	19	25	6	24
1874	4	6	1	16·6	6	8	3	37·5	19	24	18	75	20	36	10	27·7
1875	7	8	3	37·5	4	8	2	25	22	42	11	26·1	13	12	7	58·3
1876	8	20	12	60	...	...	...	...	14	19	12	63·1	15	28	15	53·5
1877	7	25	15	60	4	7	6	85·7	24	32	19	59·3	36	55	41	74·5

Year.	Offences and Punishments—*continued.*								Stolen Property.		
	Other Offences.				Total.						
	Number.	Arrests.	Convictions.	Percentage.	Number.	Arrests.	Convictions.	Percentage.	Property stolen.	Property recovered.	Percentage.
									£. s.	£. s.	
1871	802	1329	705	53 04	842	1402	722	51·4	1388 0	767 10	55·2
1872	765	1227	659	53·7	805	1293	704	54 4	2361 14	1073 6	45·4
1873	747	1305	705	54·02	797	1388	728	52·4	1377 18	599 18	43·5
1874	869	1265	566	44·7	918	1339	598	44·6	1723 16	545 16	31·6
1875	952	1401	709	50·6	998	1471	732	49·7	1704 12	553 14	32·4
1876	937	1452	931	64·1	974	1519	970	63·8	1226 0	549 2	45·7
1877	1486	1920	1491	77 6	1547	2039	1572	77·09	1791 2	727 8	40·6

Jails.

Besides the accommodation provided for under-trial prisoners at the head-quarters of each sub-division, there is in the town of Dohad a district jail able to hold 105 male and nine female prisoners.

CHAPTER X.

REVENUE AND FINANCE.

THE gross revenue in 1852 amounted to £20,113 (Rs. 2,01,130). Of this £11,378 (Rs. 1,13,780) were spent on the management of the district, and £8735 (Rs. 87,350) were paid over to His Highness Sindia. The revenue for 1853 amounted to £21,313 (Rs. 2,13,130), and the expenditure to £7407 (Rs. 74,070), leaving a surplus of £13,906 (Rs. 1,39,060). According to the estimate sent from Gwálior to the Rewa Kántha Political Agent on the transfer of the district, His Highness Sindia expected to receive £13,028 (Rs. 1,30,280) for 1854, and £13,764 (Rs. 1,37,640) for 1855, and for each succeeding year. The revenue for 1855 was estimated at £22,665 (Rs. 2,26,650) and the cost at £8901 (Rs. 89,010) leaving a surplus of £13,764 (Rs. 1,37,640). During the seven years ending 1859 the British management resulted in the steady increase of revenue shown in the margin. The total amount remitted to His Highness Sindia during these seven years (1853-1859) was £95,613 (Rs. 9,56,130) or a yearly average of £13,659 (Rs. 1,36,590). At the end of the year ending June 1860 there was a balance of £13,379 (Rs. 1,33,790) in favour of His Highness Sindia. This, added to the remittance, raises the total to £108,992 (Rs. 10,89,920) or a yearly average of £15,570 (Rs. 1,55,700), or £1806 (Rs. 18,060) more than the estimate. This increased surplus, in spite of an addition from £8021 (Rs. 80,210) in 1853-54 to £16,657 (Rs. 1,66,570) in 1859-60 in the cost of administration, is a satisfactory proof of the success of the early English management.

Panch Mahals Revenue, 1853-1859.

YEAR.	Realized.	Outstanding.
	£.	£.
1853-54...	23,565	...
1854-55...	26,286	6191
1855-56...	25,900	5036
1856-57...	26,702	4807
1857-58...	27,135	4863
1858-59...	28,482	4334
1859-60...	29,277	2459

Balance Sheet, 1864-1876.

The earliest year for which complete figures are available is 1863-64. A comparison of specially prepared balance sheets for 1863-64 and 1875-76 shows the following changes. Exclusive of £6662 (Rs. 66,620) the adjustment on account of alienated land, the transactions that appear in the district balance sheet for 1875-76 amount to receipts £46,232 (Rs. 4,62,320) against £35,281 (Rs. 3,52,810) in 1863-64, and the charges to £37,656 (Rs. 3,76,560) in 1875-76 against £27,829 (Rs. 2,78,290) in 1863-64. Exclusive of departmental miscellaneous receipts and sums received in return for

Chapter X. Revenue and Finance.

Balance Sheet, 1864-1876.

services rendered, such as the receipts of the post department, the amount of revenue raised in 1875-76 under all heads, Imperial, provincial, local, and municipal, amounted to £41,633 (Rs. 4,16,330), or on a population of 240,743 an incidence per head of 3*s.* 5½*d.*

Land Revenue.

Land revenue receipts forming 62·59 per cent of £41,633 (Rs. 4,16,330), the entire revenue of the district, have risen from £21,411 (Rs. 2,14,110) in the year ending 31st July 1864, to £26,025 (Rs. 2,60,250) in 1878. Details [1] of the land revenue collected during the last fifteen years are given in the margin. The rise in the land revenue in the seven years ending 1870 was due chiefly to the spread of the tillage area, and the better state of the people. Except 1865 when on account of scarcity caused by scanty rainfall remissions amounting to £789 (Rs. 7890) had to be given, these were years of progress. The increase and large remissions in 1871 and 1874 are nominal owing to the introduction of revised rates of assessment in Kálol and Godhra, as the difference between the old and new rates in the first year of settlement has, according to the survey rules, to be remitted. Since then in 1875 and 1876 the revenue steadily increased, but the failure of crops and distress in 1877, have in 1878 brought the revenue lower than it has been since 1870. The increased cost in collecting the land revenue from £3677 (Rs. 36,770) in 1863-64, to £9848 (Rs. 98,480) in 1875-76, is due to a rise in the number and in the amount of revenue officers' salaries.

Panch Mahâls Land Revenue, 1864-1878.

Year ending 31st July.	Revenue for collection.	Outstanding balance on 1st August.	Remission.
	£.	£.	£.
1864 ...	21,411	152	...
1865 ...	22,125	1654	789
1866 ...	22,996	1713	24
1867 ...	23,457	266	30
1868 ...	23,458	9	5
1869 ...	24,767	12	91
1870 ...	26,637	415	94
1871 ...	27,749	161	1557
1872 ...	27,043	470	11
1873 ...	26,522	213	95
1874 ...	26,790	267	1074
1875 ...	26,109	56	197
1876 ...	26,427	82	48
1877 ...	26,891	19	34
1878 ...	26,025	4609	26

Stamps.

Stamps have risen from £1101 to £2625 (Rs. 11,010 - Rs. 26,250). The 1876 charges were £64 (Rs. 640) or only £4 (Rs. 40) more than those of 1864.

Excise.

From the fondness of its wild tribes for liquor the Panch Mahâls' excise receipts are considerable; since 1863 they have risen from £1201 to £2089 (Rs. 12,010 - Rs. 20,890).

Justice.

Law and justice receipts, chiefly fines, have risen from £441 to £565 (Rs. 4410 - Rs. 5650). The 1876 charges were £3561 (Rs. 35,610) against £1436 (Rs. 14,360) in 1864 on account of the improved agency employed.

Forest.

Forest is a new head since 1863. But, though much has been done to set apart and keep forests, they are not yet a source of

[1] Extra First Assistant Collector 2143, 4th October 1878.

income. The 1876 receipts were £897 (Rs. 8970) and the cost of establishment was £984 (Rs. 9840.)

Balance Sheet, 1864-1876.

The following table shows, exclusive of official salaries, the amount realized from the different assessed taxes levied between 1862 and 1873. Owing to their variety of rates and incidence, it is difficult to make any satisfactory comparison of the results:

Assessed Taxes.

Panch Mahâls Assessed Taxes, 1862-1872.[1]

Year.	Incomes.				Realizations.	
	Below £50.		Above £50.			
	£.	Rs.	£.	Rs.	£.	Rs.
Income Tax.						
1862-63	...	...	28,798	2,87,980	1082	10,820
1863-64	...	...	29,625	2,96,250	871	8710
1864-65	...	...	23,864	2,38,640	759	7590
License Tax.						
1867-68	34,865	3,48,650	48,025	4,80,250	1072	10,720
Certificate Tax.						
1868-69	...	...	39,025	3,90,250	480	4800
Income Tax.						
1869	...	...	55,650	5,56,500	534	5340
1869-70	...	...	55,650	5,56,500	267	2670
1870-71	...	...	54,337	5,43,370	1579	15,790
1871-72	...	...	42,134	4,21,340	450	4500
1872-73	...	...	24,668	2,46,680	256	2560

Customs.

Transit duties levied on opium chests passing through the district, credited in 1863-64 to local funds, are now credited to customs and form part of the Imperial revenue.

Post.

There is no telegraph office in the district. The post receipts have risen from £190 (Rs. 1900) in 1863, to £954 (Rs. 9540) in 1876.

Police.

Police charges have risen from £10,816 to £12,326 (Rs. 1,08,160 - Rs. 1,23,260). Jail charges amounting in 1876 to £1543 (Rs. 15,430) are a new item.

In the following balance sheets of 1863-64 and 1875-76, the figures, shown in black type on both sides of the 1875-76 balance sheet, are book adjustments. On the receipt side the item £6662 (Rs. 66,620) represents the additional revenue the district would yield, had none of its land been given away. On the debit side the item £1514 (Rs. 15,140) under land revenue is the rental of the land granted to village headmen; the item £5143 (Rs. 51,430) under allowances and assignments represents the rental of the land granted to district hereditary officers and other non-service claimants; and the item £4 (Rs. 40) under police represents the rental of the land granted to village officers for police service.

[1] First Assistant Collector 1657, 7th September 1877. The Panch Mahâls were ceded to the British Government in March 1861. The income tax then levied in British India was not introduced into the Panch Mahâls till August 1862.

Chapter X.

Revenue and Finance.

Balance Sheet, 1863-64—1875-76.

Panch Mahâls Balance

Service.	Receipts. Head.	1863-64.	1875-76.
		£. s. d.	£. s. d.
Imperial.			
A.—Supervised by the Collector ...	Land revenue	17,975 10 4	28,499 12 5
			6662 13 2
	Stamps...	1101 19 9	2625 14 5
	Excise	1201 10 0	2089 19 1
	Law and justice	441 4 3	585 6 6
	Forest	.....	897 4 7
	Miscellaneous	15 0 8	6 9 4
	Interest on advances	130 13 1	9 18 9
	Loans and arrears...	.....	.....
	Total ...	20,865 18 1	34,694 5 1
			6662 13 2
B.—Administered by Departmental Heads ...	Customs	.....	1398 0 6
	Public works...	185 4 8	124 16 8
	Mint	.....	12 12 8
	Post	190 12 8	954 6 2
	Total ...	375 17 4	2489 16 0
Provincial ...	Registration	.....	110 8 9
	Education	.....	4 12 10
	Police	4 2 8	6 15 6
	Medical services	.....	0 8 11
	Jails	.....	376 18 6
	Sale of books	.....	0 14 5
	Miscellaneous	.....	18 4 11
	Total ...	4 2 8	518 3 10
Transfers and Items of Accounts.	Deposits and repayment of advances and loans.	4734 13 1	2091 12 7
	Pension fund receipts	.....	34 12 9
	Local funds	9300 18 2	6404 1 4
	Total ...	14,035 11 3	8530 6 8
	Grand Total ...	35,281 9 4	46,232 11 7
			6662 13 2

Sheet, 1863-64 and 1875-76.

CHARGES.

Head.	1863-64.	1875-76.
	£. s. d.	£. s. d.
Land revenue	3677 11 9	9848 18 3
		1514 17 8
Stamps	60 17 8	64 6 1
Forest	. ..	984 6 4
Law and justice { Civil ... ... / { Criminal	1436 14 10	1195 7 8 / 2366 3 9
Allowances and assignments	605 19 3	867 16 2
		5143 15 9
Pensions to Government servants	4 3 9	264 5 2
Miscellaneous	62 16 1	25 13 5
Total	5848 3 4	15,616 16 5
		6658 13 5
Customs	.....	.....
Public works	126 3 5	345 14 0
Mint	45 14 9	66 1 2
Post		127 2 10
Total	171 18 2	538 18 0
Registration	.....	151 2 9
Education	.....	.....
Police	10,816 15 5	12,326 7 10
		3 19 9
Medical services	142 1 7	198 0 0
Jails	...	1543 11 9
Miscellaneous	... .	212 5 5
Contribution to local funds	....	668 6 0
Public works	.. .	201 14 4
Total ..	10,958 17 0	15,301 8 1
		3 19 9
Deposits returned and advances and loans made ...	6108 18 10	3265 5 10
Local funds	4741 9 7	2933 15 2
Total	10,850 8 5	6199 1 0
Grand Total	27,829 6 11	37,656 3 6
		6662 13 2

Chapter X.

Revenue and Finance.

Local Funds.

Revenue other than Imperial.

The local funds of the Panch Mahâls are chiefly derived from the transit duties levied on goods passing through the district. The regular local fund cess, of one-sixteenth in addition to the ordinary land-tax, levied in other British districts has been introduced into the sub-divisions of Kâlol and Godhra, in the former from 1871-72, and in the latter from 1875-76. Under the orders of Government transit duties are abolished on the introduction of revised rates of assessment, and the levy of the regular one-anna cess is introduced. This measure has caused a great loss to the district local funds revenue, as the transit duties greatly exceeded the amount of the one anna cess. The 1877-78 receipts were £6532 (Rs. 65,320) against £9300 (Rs. 93,000) in 1863-64 when the transit duties were levied throughout the district.

For administrative purposes the local funds of the district are divided into two main sections, one set apart for public works and the other for instruction. The receipts and disbursements during the year 1877-78 under those two heads were as follows:

Panch Mahâls Local Funds, 1877-78.

PUBLIC WORKS.

Receipts.	£. s.	Expenditure.	£. s.
Balance, 1st April 1877 .	4693 4	Establishments	1068 3
Two-thirds of the land cess .	691 8	New works	3824 4
Cess other than the one-anna cess and transit duties ...	1596 15	Repairs	1205 7
Tolls	2352 4	Medical charges	206 18
Ferries	...	Miscellaneous	304 5
Cattle pounds	151 5	Balance, 1st April 1878 ...	3229 17
Travellers' rest-houses ..	.....		
Contributions	269 5		
Miscellaneous	84 13		
Total ...	9838 14	Total ...	9838 14

INSTRUCTION.

	£. s.		£. s.
Balance, 1st April 1877 ...	244 14	School charge	1130 16
One-third of the cess allotment from transit duties .	495 14	Scholarships	30 12
School fee fund	118 4	School-houses, new ...	21 18
Contribution (Government) .	714 12	Do. repairs ...	29 12
Do. (Private) ..	33 12	Miscellaneous	84 14
Miscellaneous	24 4	Balance, 1st April 1878 ...	333 8
Total .	1631 0	Total ...	1631 0

Results, 1863-1877.

With the funds obtained from the levy of transit duties supplemented by grants from Government, many works of public utility

have, since 1863-64, been carried out in the district. To open communication more than 150 miles of road have been made. To improve the water-supply 128 wells, 57 reservoirs and ponds, 6 water-courses and 12 water-troughs have been made or repaired. To help village instruction 12 schools, and for the comfort of travellers 7 rest-houses have been built. Besides these works, 29 village offices, *chorás*, 41 cattle-pounds, and one dispensary have been constructed.

Municipalities.

In 1876-77 two town municipalities were established. The following statement gives for each municipality the receipts, charges and incidence of taxes for the first year of establishment.

Panch Mahdls Municipal Details, 1877.

Name.	Population.	Receipts.			Expenditure.							
		House-tax.	Miscellaneous.	Total.	Establishment.	Safety.	Health.	Instruction.	Repairs.	Miscellaneous.	Total.	Incidence
		£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s	
Godhra ...	10,635	260 6	71 6	331 12	24 2	90 12	88 18	...	...	129 16	333 8	7¾d.
Dohad ...	11,472	138 8	34 0	172 8	40 14	61 10	53 0	5 0	59 13	8 14	228 11	3⅝d.
Total ...	22,107	398 14	105 6	504 0	64 16	152 2	141 18	5 0	59 13	138 10	561 19	.

CHAPTER XI.

INSTRUCTION.

Chapter XI. Instruction.

Schools, 1877-78.

In the year 1877-78 there were thirty-six Government schools, or on an average, one school for every eighteen inhabited villages, alienated as well as Government, with 2689 pupils on the rolls and an average attendance of 1765 or 1·32 per cent of 133,539, the entire population of not more than twenty years of age.

Cost.

Excluding superintendence charges, the total expenditure on education on account of these thirty-six Government schools amounted to £1219 (Rs. 12,190). Of this £715 (Rs. 7150) were debited to Government and £504 (Rs. 5040) to local and other funds.

Staff.

Under the Director of public instruction and the inspector, northern division, the schooling of the district was conducted by a local staff sixty-one strong; of these one was an assistant deputy inspector with general charge over all the schools of the district, drawing a yearly pay of £125 (Rs. 1250); and the rest were masters and assistant masters of schools with yearly salaries ranging from 12*s.* to £48 (Rs. 6 - Rs. 480).

Of thirty-six the total number of Government schools, in thirty-five Gujaráti only was taught, and in one Urdu and Gujaráti.

Progress, 1854-1878.

The following figures show the increased means for learning to read and write, offered by Government during the last twenty-four years. The first school opened in this district was a Gujaráti school at Godhra in 1854. Two years later, an Anglo-vernacular school [1] was opened in the same town. No detailed information is available for any year before 1855. In 1855-56 there were seven schools in the district with an average attendance of 362 pupils or 0·27 per cent of the total population of not more than twenty years of age. In 1865-66 the number of schools had risen to twenty-four, with a roll-call of 1363 names, and an average attendance of 1162 pupils or 0·87 per cent of the total population of not more than twenty years of age. The figures for 1877-78 were, as shown above, thirty-six schools with a roll-call of 2689 names and an average attendance of 1765, or 1·32 per cent of 133,539, the total population of not more than twenty years of age. A comparison with the returns for 1855-56 gives therefore for 1877-78 an increase in the number of schools from seven to thirty-six, while of 133,539, the entire population of the district of not more than twenty years of age, 1·32 per cent were under instruction in 1877-78 against 0·27 per cent in 1855-56.

[1] Closed at the end of 1876-77.

Vernacular schools for girls would seem to have been established in the Panch Maháls but lately. In 1877-78 there was one school[1] of this sort with a roll-call of seventy-five names and an average attendance of forty-seven pupils.

Readers and Writers, 1872.

The 1872 census returns give for each of the chief races of the district the proportion of persons able to read and write:

Hindus.

Of 47,954, the total Hindu male population not exceeding twelve years, 1417 or 2·95 per cent; of 18,363 above twelve and not exceeding twenty years, 1454 or 7·91 per cent; and of 52,087 exceeding twenty years, 3769 or 7·23 per cent were able to read and write or were being taught. Of 43,682, the total Hindu female population not exceeding twelve years, sixty-seven or 0·15 per cent; of 15,834 above twelve and not exceeding twenty years, twenty-five or 0·05 per cent; and of 47,855 exceeding twenty years, thirty-five or 0·07 per cent were able to read and write or were being taught.

Muhammadans.

Of 2769, the total Musalmán male population not exceeding twelve years, 331 or 11·95 per cent; of 1295 above twelve and not exceeding twenty years, 357 or 27·56 per cent; and of 3802 exceeding twenty years, 888 or 23·35 per cent were able to read and write or were being taught. Of 2571, the total Musalmán female population not exceeding twelve years, eighteen or 0·70 per cent; of 1059, above twelve and not exceeding twenty years, fourteen or 1·32 per cent; and of 3425 exceeding twenty years, twenty-one or 0·61 per cent were able to read and write or were being taught.

Pársis.

Of Pársis there were but seventeen in the whole district, twelve males and five females. Ten of the former and two of the latter were able to read and write or were being taught.

Pupils by Race, 1877-78.

Before the year 1865-66 there were no returns arranging the pupils according to race and religion. The statement given in the margin shows that in 1877-78 of the two chief races of the district, the Musalmáns have the largest proportion of their boys under instruction. All the seventy-five girls enrolled in 1877-78 in the one girls' school were Hindus. Of 2354 the total number of pupils in Government schools at the end of December 1877, 411 or 17·45 per cent were Bráhmans; 6 or 0·25 per cent writers, 2 Kshatris and 4 Parbhus; 611 or 25·95 per cent traders and shopkeepers, 490 Vániás, 121 Shrávaks; 238 or 10·11 per cent cultivators, 115 Kanbis, 80 Rajputs, 25 Káchhiás, 3 Mális, 14 Luhánás and 1 Koli; 232 or 9·85 per cent craftsmen; 4 Bhávsárs, calico-printers; 32 Ghánchis, oil-pressers; 50 Sonis, gold and silver smiths, 44 Suthárs

Pupils by Race, 1865-66 and 1877-78.

Race.	1865-66.	1877-78.	Increase per cent.
Hindus ...	1701	2501	47·03
Musalmáns .	159	284	78·61
Total ...	1860	2685	44·35

[1] In 1875-76 there were three such schools with a roll-call of 119 names and an average attendance of sixty-three pupils.

Chapter XI. Instruction.

carpenters; 2 Kansárás, coppersmiths, 46 Luhárs, blacksmiths; 7 Kadiás, bricklayers; 36 Darjis, tailors; 11 Kumbhárs, potters; 409 or 17·37 per cent, Bárots (404) and Chárans (5), bards and genealogists; 26 or 1·10 per cent Hajáms, barbers; 68 or 2·88 per cent miscellaneous workers and labourers; 10 Kaláls, liquor-sellers; 2 Rávaliás, cotton tapemakers; 1 Vághri, fowler and hunter; 1 Bhádbhunja, grainparcher; 27 Ods, well-diggers and labourers; 1 Jat, 1 Bávchá, 3 Khárvás, 4 Pardeshi, and 18 Maráthás, servants; 13 or 0·55 per cent leather-workers, 8 Mochis and 5 Dabgars; 27 or 1·14 per cent religious beggars, 9 Vairágis, 16 Gosáis and 2 Sádhus; 36 or 1·52 per cent unsettled tribes, 3 Vanjárás, 27 Bhils, and 6 Náikdás; 5 or 0·21 per cent Pársis; 272 or 11·55 per cent Musalmáns. No Dhed or Bhangia boys attended the Government schools in this district.

Schools, 1855-1878.

The following table, prepared from special returns furnished by the educational department, shows in detail the number of schools and pupils with their cost to Government:

Panch Mahálś School Return, 1855-56, 1865-66, and 1877-78.

Class.	Schools.			Pupils. Hindus.			Musalmáns.			Pársis.			Total.			Average Daily Attendance.		
	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56	1865-66.	1877-78.
Government																		
Anglo-Vernacular school	1	2	...	...	358	...	.	53		...	3	...	27	414	..	26	266	..
Vernacular school for Boys	6	22	35	.	1343	2326	.	105	284	...	...	4	(a) 300	1449	2614	336	896	1718
Vernacular school for Girls	...		1	...	...	75		..	..	...	..	...	..		75	.	..	47
Total	7	24	36	.	1701	2401	.	159	284	...	3	4	(a) 327	1863	2689	362	1162	1765

Class.	Fee			Cost per Pupil.			Receipts. Government.			Local Cess.			Municipalities.		
	1855-56.	1865-66.	1877-78.	1855-56	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-56.	1877-78.
Government.				s. d.	s. d.	£. s. d	£	£	£	£	£	£	£	£	£
Anglo-Vernacular school	1s.	Varying from ½d to 4½d.	.....	1 5⅝	14 8½	..	..	124	..	...	...	...	..	.	...
Vernacular school for Boys	1½d.	Varying from ¼d to 3d.	.....	.	... .	0 16 7½	...	391	715	..	...	296	..	.	..
Vernacular school for Girls	.	. ..	. ....	... .	.. .	1 3 11¼	..	...	...	.	...	47	.	..	
Total	.	.	.....	....	.....	... ..		515	715		...	343	...	..	

(a) In the month of March 1856.

Panch Mahâls School Return, 1855-56, 1865-66, and 1877-78—continued.

Class.	Receipts from									Expenditure on								
	Private Individuals.			School Fees, &c.			Total.			Inspection and Instruction.			Buildings.			Libraries.		
	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Government.																		
Anglo-Vernacular school	2	5	...	1	29	...	3	158	...	2	195	...	...	...	.	...	...	..
Vernacular school for { Boys	80	74	...	...	63	118	80	528	1129	63	562	1128	...	.	22	...	...	1
Vernacular school for { Girls ...	...	...	...	...	..	...	..	...	47	.	...	47	...	..	...	...	..	..
Total ...	82	79	...	1	92	118	83	686	1176	65	757	1175	.	...	22	..	...	1

Class.	Expenditure on						Cost to											
	Scholarships.			Total.			Government.			Local Cess.			Other Funds.			Total		
	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.	1855-56.	1865-66.	1877-78.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Government.																		
High school [1]	...	...	21	...	...	21	...	...	...	...	...	21	..	...	..	...	...	21
Anglo-Vernacular school	...	...	...	2	195	..	...	124	...	...	...	...	2	71	..	2	195	..
Vernacular school for { Boys	...	...	...	63	564	1151	...	391	715	..	...	318	63	171	118	63	562	1151
Vernacular school for { Girls ...	...	...	...	...	...	47	..	...	...	...	...	47	...	...	...	...	...	47
Total ...	...	...	21	65	757	1219	...	515	715	...	...	386	65	242	118	65	757	1219

[1] Nadiád High school, to which a contribution of £21 is paid from this district.

A comparison of the present (1877-78) provision for teaching the district town and country population gives the following results.

Town Education, 1877-78.

In the town of Godhra there were in 1877-78, three Government vernacular schools with, out of 434 names on the rolls, an average attendance of 285 pupils. Of these schools one was an Urdu school and two were Gujaráti schools, one for boys, the other for girls; the yearly cost for each pupil was £1 2*s.* (Rs. 11) in the Urdu, and in the Gujaráti 12*s.* (Rs. 6) in the boys' and £1 (Rs. 10) in the girls' school. In the town of Dohad there was one vernacular school with, out of 273 names on the rolls, an average attendance of 158 pupils. The yearly cost per pupil was 13*s.* (Rs. 6 - 8 *as.*).

Village Education.

Exclusive of these four town schools, the district of Panch Mahál was in 1877-78 provided with thirty-two Government vernacular schools, or on an average one school for every eighteen inhabited villages. The following statement shows the distribution of these schools by sub-divisions:

Panch Mahál Village Schools, 1877-78.

Sub-division.	Villages.	Population.	Vernacular.	
			Boys.	Girls.
Godhra	187	63,379	10	...
Kálol	202	66,431	17	...
Dohad	198	100,298	5	...
Total ..	587	230,108	32	...

Libraries.

In this district there are two libraries but no local newspaper. The library at Godhra known as the 'Stewart Library,' was established in 1866-67. The number of subscribers is returned at forty-three and the average annual collections at £24 (Rs. 240). A yearly grant of £20 is received from the Panch Mahál local funds unless the latter are on the decline. The library has a building of its own and is provided with 183 English and 207 Gujaráti books and ten maps. The library at Dohad known as the 'Enti Library,' was established in 1869-70. The number of subscribers is returned at seventeen and the average annual collections at £12 (Rs. 120). The library has a building of its own and is provided with a total number of 193 English and vernacular books.

CHAPTER XII.

HEALTH.

Chapter XII. Health.

THE chief disease, intermittent and remittent fever, becomes common after the setting in of the rains (July), and grows gradually severer and more widespread till towards the close of the year it again abates. In outlying parts so fierce are its attacks that whole outposts are at times unfit for duty. Next to fever the chief diseases are skin affections, bronchitis, rheumatism, worms, opthalmia and diarrhœa. Before the introduction of vaccination, small-pox was common among the Bhils and Náikdás; but during the last twenty years its outbreaks have become much less fatal. The Superintendent of vaccination says, 'as a class the wild races have taken to vaccination pretty freely, and it may be said that when once begun it is easier to carry on vaccination among them than among other people.'[1] In five of the last fifteen years, in 1864, 1865, 1869, 1872 and 1875 the district has been visited by cholera. Except in 1875, when more than a thousand people died in two months, no details of these attacks are available. The Kolis and Náikdás and to a less extent the Bhils use many drugs, dividing them into three classes according as they cure the three chief forms of disease, those due to cold, to heat, and to wind. Arsenic in some of its forms and an impure mercury are much used.

Hospitals.

At present (1878) there are in the district one civil hospital at Dohad and one dispensary at Godhra. During the year 1877, 10,937 persons in all were treated, of whom 731 were in-door and 10,206 out-door patients. These institutions are provided with special buildings. The total amount expended in checking disease in 1877 was £1318 (Rs. 13,180). Of this £206 (Rs. 2060) were paid from local funds. The following details are taken from the 1877 report. Of 403 in-patients treated in the civil hospital, 365 were cured and 21 died. The out-patients numbered 4232. The average daily sick for in-patients was 13·24 and for out-patients 42·5. The principal diseases were malarious fevers, rheumatism, eye and lung affections, and bowel and skin diseases. The mortality was chiefly due to diarrhœa and dysentery and to lung disease. There were 12 major and 294 minor surgical operations. The Godhra dispensary established in 1870 is provided with a building 63 feet long by 33 feet wide. Inclusive of 228 in-patients, 6202 persons were treated. The chief diseases were malarious fevers, cholera, and skin affections.

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[1] Superintendent's Memo. 24th April 1875.

In 1877-78 the work of vaccination was, under the supervision of the deputy sanitary commissioner in east Gujarát, carried on by five vaccinators, with yearly salaries varying from £16 16*s.* to £28 16*s.* (Rs. 168-Rs. 288.) All the operators were distributed over the rural parts of the district, one for each sub-division. Exclusive of 1244 re-vaccinations there were 9841 vaccinations compared with 9476 in 1869-70.

The following abstract shows the sex, religion, and age of the persons vaccinated:

Panch Mahâls Vaccination Details, 1869 and 1877.

Year.	Number Vaccinated.									
	Sex.		Religion.					Age.		Total.
	Males.	Females.	Hindus.	Musalmáns.	Pársis.	Christians.	Others.	Under one year.	Over one year.	
1869-70 ...	4704	4772	8778	467	...	...	231	3980	5496	9476
1877-78 ...	5071	4770	8957	496	2	...	386	4781	5060	9841

The total cost of these operations was, in 1877-78, £423 18*s.* (Rs. 4239) or about $9\frac{5}{8}d.$ ($6\frac{5}{12}$ *as.*) for each successful case. The entire charge was made up of the following items: supervision and inspection £268 4*s.* (Rs. 2682), establishment £144 14*s.* (Rs. 1447), and contingencies £11 (Rs. 110). Of these the supervising and inspecting charges and 14*s.* (Rs. 7) on account of contingencies, were wholly met from Government provincial funds, while the expense of £155 (Rs. 1550) on account of rural vaccinators was borne by the district local funds.

Births and Deaths, 1872-1878.

The total number of deaths shown in the Sanitary Commissioner's reports for the seven years ending 1878 is 41,629 or an average yearly mortality of 5947, or on the basis of the 1872 census, of 2·47 per cent of the total population. Of the average number of deaths 4140 or 69·61 per cent were returned as due to fever; 405 or 6·81 per cent, to bowel complaints; 813 or 13·67 per cent, to cholera; 62, or 1·04 per cent, to smallpox; and 406 or 6·83 per cent, to miscellaneous diseases. Deaths from violence or accident averaged 121, or 2·03 per cent of the average mortality of the district. During the same period the number of births is returned at 29,161 souls, of whom 15,269 are entered as male and 13,892 as female children, or an average yearly birth-rate of 4166 souls; or on the basis of the 1872 census figures, a birth-rate of 1·73 per cent of the entire population of the district.[1]

[1] These figures are incorrect, for while the population of the district is increasing the returns show a yearly birth-rate less by 1781 than the death-rate. In a district of Bhils and Náikdás the returns are necessarily very imperfect.

CHAPTER XIII.

SUB-DIVISIONS.

GODHRA.

Godhra Sub-division.—The Godhra sub-division is bounded on the north by Lunávada, on the east by Báriya, on the south by Kálol, and on the west partly by Baroda territory and partly by the river Mahi. Its area is 583 square miles; its population in 1872, 74,014 souls, or 127 to the square mile; and its realizable land revenue in 1878, £5615 (Rs. 56,150).

Area.

Of its 583 square miles, 203 are occupied by alienated, proprietary, *tálukdári* and *udhad*, villages. The rest, according to the revenue survey returns, contains 243,556 acres; of these 103,222 acres or 42·38 per cent were arable land, 130,671 acres or 53·65 per cent were forest lands, and 9663 or 3·96 per cent were unarable waste occupied by ponds, river beds, and village sites. From the 103,222 arable acres, 26,685, the area of alienated lands in Government villages, has to be taken. Of the balance 76,537 acres, 65,048 or 85 per cent were in the year 1877-78 under tillage.

Aspect.

Except in the west near the Mahi, where is a well tilled and well wooded tract of light soil, and in the north where the surface is broken by patches and peaks of granite rock, Godhra is a plain country of brushwood and forest with scanty rough tillage.

Climate.

During most of the year the Godhra climate is trying. In the cold weather, October to February, fever is common and the natives suffer much from the cold winds; in the hot months, March to June, the heat is sometimes very great; and the rains, June to October, are close and relaxing. The average rainfall at Godhra, during the five years ending 1877, was 45·73 inches.

Water.

The water of the 311 wells and 134 ponds and reservoirs in this sub-division is used almost entirely for drinking, washing, and for cattle. Only one thirty-third part of the whole area of Government cultivated land is watered. The only rivers of any size are the Mahi on the west, and the Pánam on the east and north-east. The other streams, such as the Mesri that flows past the town of Godhra, are little more than local water-courses.

Soil.

Except occasional patches of black and, along the Pánam valley rich medium, *besar*, soil, most of the surface of the district is worn lime and granite, rich when deep, and poor when thin.

The following statement shows the arable area in Government villages and the rates fixed for thirty years in 1873-74:

Rental, 1874.

Godhra Rent Roll, 1873-74.

Tenure.	Arable Land.	Occupied. Acres.	Occupied. Rupee Assessment.	Occupied. Average acre rate.	Unoccupied. Acres.	Unoccupied. Rupee Assessment.	Unoccupied. Average acre rate.	Total. Acres.	Total. Rupee Assessment.	Total. Average acre rate.
		A. g.	Rs. a.	Rs. a. p.	A. g.	Rs. a.	Rs. a. p.	A. g.	Rs. a.	Rs. a. p.
Govt.	Dry crop ...	59,283 25	34,165 7	0 9 3	11,341 22	6107 12	0 8 7	70,625 7	40,273 3	0 9 1
	Garden... ...	1935 35	3173 10	1 10 3	75 13	104 10	1 6 3	2011 8	3278 4	1 10 1
	Rice	3676 10	5736 9	1 9 0	223 26	326 7	1 7 4	3899 36	6063 0	1 8 10
	Total...	64,895 30	43,075 10	0 10 7	11,640 21	6538 13	0 9 0	76,536 11	49,614 7	0 10 4
Alienated.	Dry crop ...	20,618 32	16,386 7	0 12 9	...	...	...	20,618 32	16,386 7	0 12 9
	Unassessed	1295 39						1295 39		
	Garden... ...	2234 11	3554 14	1 9 5	...	...	...	2234 11	3554 14	1 9 5
	Rice	2536 15	4364 12	1 11 6	...	...	...	2536 15	4364 12	1 11 6
	Total...	25,389 18	24,306 1	0 15 4	...	...	...	25,389 18	24,306 1	0 15 4
	Unassessed...	1295 39						1295 39		
Total.	Dry crop ...	79,902 17	50,551 14	0 10 2	11,341 22	6107 12	0 8 7	91,243 39	56,659 10	0 9 11
	Unassessed...	1295 39						1295 39		
	Garden... ...	4170 6	6728 8	1 9 10	75 13	104 10	1 6 3	4245 19	6833 2	1 9 9
	Rice	6212 25	10,101 5	1 10 0	223 26	326 7	1 7 4	6436 11	10,427 12	1 9 11
	Grand Total...	90,285 8	67,381 11	0 11 11	11,640 21	6538 13	0 9 0	101,925 29	73,920 8	0 11 7
	Unassessed...	1295 39	...	...	...	...	...	1295 39		
		91,581 7	...	...	...	...	...	103,221 28		

	Rs. a. p.	£. s. d.
Assessment on Government and alienated land ...	73,920 8 0	7392 1 0
Deduct—Alienations	24,306 1 0	2430 12 1½
Remains	49,614 7 0	4961 8 10½
Add—Quitrents	1391 0 0	139 2 0
Add—Grazing fees and river-bed tillage	10,683 9 4	1,068 7 2
Total revenue	61,689 0 4	6168 18 0½

Stock, 1876-77.

The 1872 population, 74,014 souls lodged in 18,271 houses, were, in 1877, provided with 478 wells and 209 ponds, and owned 10,876 ploughs, 2232 carts, 27,343 oxen, 32,267 cows, 11,367 buffaloes, 1252 horses, 8908 sheep and goats, 311 asses, and 400 camels.

Occupancy, 1873-74.

In 1873-74, the year of settlement, 6430 holdings, *khátás*, were recorded with an average area of $14\frac{2}{40}$ acres, and a rental of 13*s.* 10*d.* (Rs. 6-14-8). Equally divided among the agricultural population, these holdings would, for each person, represent an allotment of $8\frac{2}{40}$ acres, at a yearly rent of 7*s.* $10\frac{1}{4}$*d.* (Rs. 3-14-10). If distributed among the whole population of the sub-division, the share to each would amount to $1\frac{3}{40}$ acres, and the incidence of the land tax to 1*s.* 8*d.* (Rs. 0-13-4).

Produce, 1877-78.

In 1877-78 of 65,048 acres, the total area of cultivated land, 21,045 or 32·35 per cent were fallow or under grass. Of the 44,003 acres

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under actual cultivation, grain crops occupied 33,734 acres, or 76·66 per cent, 13,425 of them under maize, *makái*, Zea mays; 7431 under *bájri*, Penicillaria spicata; 4704 under rice, *dángar*, Oryza sativa; 4520 under *rági*, Eleusine corocana; 848 under *juvár*, Sorghum vulgare; 2050 under *kodra*, Paspalum scrobiculatum; 86 under wheat, *ghau*, Triticum æstivum; 25 under barley, *jav*, Hordeum hexastichon; and 645 under miscellaneous cereals. Pulses occupied 9305 acres, or 21·14 per cent, 8015 of them under gram, *chana*, Cicer arietinum; 599 under *adad*, Phaseolus mungo; 404 under *mag*, Phaseolus radiatus; 261 under *tuver*, Cajanus indicus; and 26 under miscellaneous pulses. Oil-seeds occupied 837 acres, or 1·90 per cent, 811 of them under *tal*, Sesamum indicum; and 26 under other oil-seeds. Hemp, *san*, occupied 60 acres. Miscellaneous crops occupied 67 acres, 41 of them under sugarcane, *serdi*, Saccharum officinarum; 9 under tobacco, *tambáku*, Nicotiana tabacum; and 17 under miscellaneous vegetables and fruits.

People, 1872.

The 1872 census returns show of a total population of 74,014 souls, 66,787 or 90·23 per cent, Hindus; 7213 or 9·74 per cent, Musalmáns; 8 Pársis; and 6 Christians. Statistics specially prepared from the enumerators' forms give the following caste details: 2017 Bráhmans; 43 Brahma-Kshatris, Káyasths and Parbhus, writers; 1418 Vániás and 553 Shrávaks, traders and merchants; 2397 Kanbis; 2384 Rajputs; 390 Káchhiás, 8 Mális and 39,776 Kolis, cultivators; 2 Bhávsárs, calicoprinters; 102 Sonis, gold and silver smiths; 326 Suthárs, carpenters; 321 Luhárs, blacksmiths; 152 Darjis, tailors; 3 Kadiás, bricklayers; 69 Bháts, and 377 Chárans, bards and genealogists; 555 Kumbhárs, potters; 576 Hajáms, barbers; 15 Dhobhis, washermen; 878 Bharváds and Rabáris, herdsmen and shepherds; 28 Chhipás, calenders; 64 Golás, ricepounders; 1369 Máchhis, fishermen; 696 Bhois, labourers and cultivators; 80 Maráthás, servants and labourers; 21 Vághris and 733 Rávaliás, beggars and labourers; 33 Kaláls, liquor sellers; 19 Ods, diggers; 1766 Vanjárás, carriers and cultivators; 38 Bávchás, labourers; 25 Márvádis, labourers; 3495 Bhils and 1387 Náikdás, unsettled cultivators; 83 Bajániás, acrobats; 435 Mochis, shoemakers; 638 Chámadiás, tanners; 2066 Dheds, 106 Garudás, and 224 Sindhvás, 908 Bhangiás, depressed classes; and 206 religious beggars. As regards occupation the same return arranges the whole population under the seven following heads: i. Employed under Government or municipal or other local authorities, 1120. ii. Professional persons, 636. iii. In service or performing personal offices, 983. iv. Engaged in agriculture and with animals, (*a*) cultivators 17,092; (*b*) labourers 144; total 17,236. v. Engaged in commerce and trade, 1610. vi. Employed in mechanical arts, manufactures and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 3612. vii. Miscellaneous persons not classed otherwise, (*a*) women 19,460 and children 29,059, in all 48,519; and (*b*) miscellaneous persons 298; total 48,817.

KALOL.

Ka'lol Sub-division.—Kálol is bounded on the north by Godhra; on the east by Báriya; on the south by the petty division

of Hálol; and on the west by Baroda and the Pándu Mehvás. Compact in form, about twenty miles from east to west, and ten from north to south, it has an area of 145 square miles, a population in 1872 of 40,505 souls, and in 1878 a realizable land revenue of £6644 (Rs. 66,440).

Area. Of its 145 square miles, 19 are occupied by *tálukdári* and alienated villages. The rest, according to the revenue survey returns, contains 80,652 acres; 74,107 acres, or 91·88 per cent of these were arable and 6545 or 8·11 per cent were unarable waste occupied by ponds, river beds, and village sites. From the 74,107 arable acres, 19,047 the area of alienated lands in Government villages has to be taken. Of the balance 55,060 acres, 27,505 or 49·95 per cent were in 1877-78 under tillage.

Aspect. Open to the west and with some slightly rising ground and patches of brushwood to the east, Kálol is a rich, well wooded plain, its fields fenced by high hedges and rows of brab palms, and its villages as comfortable and well built as those of Kaira. The eastern hills of metamorphic rock do not rise more than a few hundred feet above the plain. About Arádra they are quaintly capped with grey granite boulders, that look as if about to slip down the smooth hill side. The granite stones used for the embankment of the Maláv lake were taken from these hills.

Climate. The average yearly rainfall is returned at 41 inches. Both in climate and water Kálol is better than Godhra or Hálol.

Water. This sub-division is crossed from east to west by three rivers, the Mesri in the north, the Goma in the centre, and the Karad in the south. Rising in the Báriya highlands and flowing to the Mahi they are alike in being dangerous torrents during the rains and in losing their flow of water soon after the cold season begins. In other points they are unlike. The Karad flows over a rocky bed between high steep banks, while the banks of the Mesri and Goma are low and their beds sandy. There are 102 reservoirs and ponds, and of 499 wells 249 are used for watering fields. The Maláv reservoir, the largest in the sub-division, waters a large area of rice and sugarcane. The water of the other ponds is used only for watering rice and for domestic purposes.

Soil. Light, *gorádu*, is the most common soil all over the sub-division; medium, *besar*, is found in some low-lying villages; pure black soil is unknown. The light soil varies much in quality. Inferior towards the north-east, near Kálol it is very high class, chalky and sticky, though somewhat sandy.

Chapter XIII. Sub-divisions. KA'LOL.

The following statement shows the arable area in Government villages and the rates fixed for thirty years in 1870-71 :

Rental, 1871.

Kálol Rent Roll, 1870-71.

Tenure.	Arable Land.	Occupied.			Unoccupied.			Total.		
		Acres.	Rupee Assessment.	Average acre rate.	Acres.	Rupee Assessment.	Average acre rate.	Acres.	Rupee Assessment.	Average acre rate.
			Rs.	R. a. p.		Rs.	Rs. a. p.		Rs.	Rs. a. p.
Government.	Dry crop ...	24,334	32,053	1 5 1	24,492	16,739	0 10 11	48,826	48,792	1 0 0
	Garden ...	1334	5924	4 7 0	9	30	3 5 4	1343	5954	4 6 11
	Rice	4686	17,427	3 11 6	204	540	2 10 4	4890	17,967	3 10 9
	Total ...	30,354	55,404	1 13 2	24,705	17,309	0 11 3	55,059	72,713	1 5 2
Alienated.	Dry crop ...	14,369	23,232	1 9 10	...	...	...	14,369	23,232	1 9 10
	Garden ...	2172	9643	4 7 0	...	...	...	2172	9643	4 7 0
	Rice	2506	9759	3 14 0	...	...	...	2506	9759	3 14 0
	Total ...	19,047	42,634	2 3 10	...	...	...	19,047	42,634	2 3 10
Total.	Dry crop ...	38,703	55,285	1 6 10	24492	16,739	0 10 11	63,195	72,024	1 2 3
	Garden ...	3506	15,567	4 7 0	9	30	3 5 4	3515	15,597	4 7 0
	Rice	7192	27,186	3 12 6	204	540	2 10 4	7396	27,726	3 12 6
	Grand Total.	49,401	98,038	1 15 9	24,705	17,309	0 11 3	74,106	1,15,347	1 8 11

	Rs. a. p.	£. s. d.
Assessment on Government and alienated land ...	1,15,348 4 0	11,534 16 6
Deduct—Alienations	42,633 10 0	4263 7 3
Remains	72,714 10 0	7271 9 3
Add—Quit-rents	8843 4 0	884 6 6
Add—Grazing fees and river-bed tillage ...	1856 10 11	185 13 4½
Total revenue ...	83,414 8 11	8341 9 1½

Stock, 1876-77.

The 1872 population, 40,505 souls lodged in 9919 houses, were, in 1877, provided with 573 wells and 174 ponds, and owned 5875 ploughs, 1836 carts, 13,057 oxen, 9480 cows, 4015 buffaloes, 443 horses, 3401 sheep and goats, and 359 asses.

Occupancy.

In 1870-71, the year of settlement, 7113 holdings, *khátás*, were recorded with an average area of $5\frac{29}{40}$ acres, and a rental of 18*s.* 4*d.* (Rs. 9-2-8). Equally divided among the agricultural population, these holdings would, for each person, represent an allotment of $2\frac{1}{40}$ acres at a yearly rent of 5*s.* $3\frac{1}{4}$*d.* (Rs. 2-10-2). If distributed among the whole population of the sub-division, the share per head would amount to $1\frac{21}{40}$ acres, and the incidence of the land-tax to 3*s.* $11\frac{1}{2}$*d.* (Rs. 1-15-8).

Produce, 1877-78.

In 1877-78 of 27,505 acres, the total area of cultivated land, 3834 or 13·93 per cent were fallow or under grass. Of the 23,671 acres under actual tillage, grain crops occupied 20,129 acres, or 85·03 per cent, 9477 acres of them under *bájri*, Penicillaria spicata; 4075 under *rági*, Eleusine corocana; 4037 under rice, *dángar*, Oryza sativa; 1003 under *kodra*, Paspalum scrobiculatum; 720 under *juvár*, Sorghum vulgare; 308 under maize,

makái, Zea mays; 10 under wheat, *ghau,* Triticum æstivum; and 499 under miscellaneous grains. Pulses occupied 2946 acres, or 12·44 per cent, 974 acres of them under *mag,* Phaseolus radiatus; 706 under *tuver,* Cajanus indicus; 254 under gram, *chana,* Cicer arietinum; 30 under *adad,* Phaseolus mungo; and 982 under miscellaneous pulses. Oil seeds occupied 300 acres, or 1·26 per cent, 189 of them under *tal,* Sesamum indicum; and 111 under other oil seeds. Fibres occupied 137 acres, or 0·57 per cent, 31 of them under cotton, *kapás,* Gossypium herbaceum; and 106 under Bombay hemp, *san,* Crotalaria juncea. Miscellaneous crops occupied 159 acres, or 0·67 per cent, 83 of them under sugarcane, *serdi,* Saccharum officinarum; 15 under tobacco, *tambáku,* Nicotiana tabacum; and 61 under miscellaneous vegetables and fruits.

People, 1872.

The 1872 census returns show of a total population of 40,505 souls, 38,835, or 95·87 per cent Hindus; 1663, or 4·10 per cent Musalmáns; 4 Pársis; and 3 Christians. Statistics specially prepared from the enumerators' forms give the following caste details: 2386 Bráhmans; 6 Brahma-Kshatris, writers; 1717 Vániás and 198 Shrávaks, traders and merchants; 1700 Kanbis, 1216 Rajputs, 336 Káchhiás, 25 Mális, and 24,069 Kolis, cultivators; 74 Bhávsárs, calicoprinters; 146 Sonis, gold and silver smiths; 363 Suthárs, carpenters; 389 Luhárs, blacksmiths; 246 Darjis, tailors; 12 Saláts, masons; 102 Bháts and Chárans, bards and genealogists; 310 Kumbhárs, potters; 463 Hajáms, barbers; 21 Dhobhis, washermen; 164 Bharváds and Rabáris, herdsmen and shepherds; 40 Golás, rice-pounders; 116 Bhois, labourers and cultivators; 32 Purabiás and Maráthás, servants; 51 Vághris and 569 Rávaliás, beggars and labourers; 192 Ods, diggers; 40 Bhils and Náikdás, unsettled cultivators; 340 Mochis, shoemakers; 368 Chámadiás, tanners; 1498 Dheds; 145 Garudás; and 1134 Bhangiás, depressed classes, and 231 religious beggars. As regards occupation the same return arranges the whole population under the seven following heads: i. Employed under Government or municipal or other local authorities, 620. ii. Professional persons, 272. iii. In service or performing personal offices, 177. iv. Engaged in agriculture and with animals, (*a*) cultivators 8734, (*b*) labourers 143, total 8877. v. Engaged in commerce and trade, 400. vi. Employed in mechanical arts, manufactures and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 2389. vii. Miscellaneous persons not classed otherwise, (*a*) women 11,175 and children 16,294, in all 27,469 and (*b*) miscellaneous persons 301, total 27,770.

HA'LOL.

Ha'lol Petty Division. The petty division of Hálol under Kálol is bounded on the north by Kálol, on the east by Báriya, Jámbughoda, and Chhota Udepur; and on the south and west by Baroda. Its area is 261 square miles; its population in 1872, 25,926 souls, and its realizable land revenue in 1878, £2437 (Rs. 24,370.)

Area.

Of its 261 square miles, 128 are occupied by alienated and *tálukdári* villages. The rest according to the revenue survey returns contains 85,411 acres; of these, 82,987 acres or 97·16 per cent including alienated lands in Government villages and lands under the forest

Chapter XIII. Sub-divisions.

department of which details are not available, were arable and 2424 acres or 2·84 per cent were unarable waste occupied by ponds, river-beds, and village sites.

HA'LOL.

Aspect.

Hálol is a well-wooded and well tilled plain surrounding the great hill of Pávágad. To the east and south, low, isolated, scantily wooded hills, stand out from a rich black-soil plain, most of it waste and covered with brushwood.

Climate.

Especially within four or five miles of the hills the water is said to be poisonous, and the climate very unhealthy. The average rainfall is 40·44 inches.

Water.

Three rivers cross Hálol from east to west. The Karad on the north, the Vishvámitri in the centre from Pávágad, and on the south the Devnadi from the Báriya hills. The Devnadi flowing south-west is afterwards known in Broach as the Dhádhar. There are 72 ponds and reservoirs, two of them the Vadu and Jákhariya of great size. Water is everywhere near the surface, and round Hálol there are very many wells. With a richer and less rude peasantry, much of the sub-division might be watered.

Soil.

To the north the soil is light, *gorádu*, to the east it is sandy, and to the south and west it is black.

Rent Roll.

As Hálol has not yet been surveyed it is without the usual assessment and occupancy details.

Stock, 1876-77.

The 1872 population 25,926 souls, lodged in 6612 houses, were, in 1877, provided with 352 wells and 114 ponds, and owned 3986 ploughs, 1563 carts, 10,002 oxen, 15,359 cows, 5147 buffaloes, 362 horses, 5354 sheep and goats, 168 asses, and 5 camels.

Produce, 1877-78.

In 1877-78 of 13,713 acres the total area of cultivated land, 1750 or 12·76 per cent were fallow or under grass. Of the 11,963 acres under actual cultivation, grain crops occupied 9789 acres, or 81·82 per cent, 3086 acres of them under *bájri*, Penicillaria spicata; 2274 under *kodra*, Paspalum scrobiculatum; 2167 under rice, *dángar*, Oryza sativa; 1221 under *juvár*, Sorghum vulgare; 598 under *rági*, Eleusine corocana; 262 under maize, *makái*, Zea mays; 2 under wheat, *ghau*, Triticum æstivum; and 179 under miscellaneous grains. Pulses occupied 1515 acres, or 12·66 per cent, 513 acres of them under gram, *chana*, Cicer arietinum; 352 under *mag*, Phaseolus radiatus; 100 under *tuver*, Cajanus indicus; 100 under *adad*, Phaseolus mungo; and 450 under miscellaneous crops. Oil seeds occupied 632 acres, or 5·28 per cent, 117 of them under *tal*, Sesamum indicum; and 515 under other oil seeds. Fibres occupied 10 acres, or 0·08 per cent, 2 of them under cotton, *kapás*, Gossypium herbaceum; and 8 under Bombay hemp, *san*, Crotalaria juncea. Miscellaneous crops occupied 17 acres, or 0·14 per cent, 7 of them under sugarcane, *serdi*, Saccharum officinarum; 2 under tobacco, *tambáku*, Nicotiana tabacum; and 8 under miscellaneous vegetables and fruits.

People, 1872.

The 1872 census returns show of a total population of 25,926 souls, 25,215 or 97·25 per cent, Hindus; 708 or 2·73 per cent, Musalmáns; and 3 Pársis. Statistics specially prepared from the enumerators' forms give the following caste details: 314 Bráhmans;

4 Brahma-Kshatris, writers; 746 Vániás, 33 Bhátiás and 15 Shrávaks, traders and merchants; 455 Kanbis, 75 Rajputs, 199 Káchhiás, and 14,055 Kolis, cultivators; 6 Bhávsárs, calicoprinters; 71 Sonis, gold and silver smiths; 11 Suthárs, carpenters; 225 Luhárs, blacksmiths; 49 Darjis, tailors; 4 Chunárás, bricklayers; 14 Saláts, masons; 481 Bháts and Chárans, bards and genealogists; 171 Hajáms, barbers; 824 Bharváds and Rabáris, herdsmen and shepherds; 81 Golás, rice-pounders; 5 Bhois, labourers; 52 Maráthás, labourers; 129 Rávaliás, beggars and labourers; 41 Márvádis, labourers; 57 Ods, diggers; 21 Kaláls, liquor sellers; 1838 Bhils, and 4518 Náikdás, unsettled cultivators; 23 Mochis, shoemakers; 99 Chámadiás, tanners, 287 Dheds and 286 Bhangiás, depressed classes; and 27 religious beggars. As regards occupation the same return arranges the whole population under the seven following heads: i. Employed under Government or municipal or other local authorities, 292. ii. Professional persons, 45. iii. In service or performing personal offices, 218. iv. Engaged in agriculture and with animals, (*a*) cultivators 5174, (*b*) labourers 414, total 5588. v. Engaged in commerce and trade, 93. vi. Employed in mechanical arts, manufactures and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 2445. vii. Miscellaneous persons not classed otherwise, (*a*) women 6716 and children 10,457, in all 17,173; and (*b*) miscellaneous persons 72; total 17,245.

Dohad Sub-division. Dohad, the two boundaries, has on the north the petty division of Jhálod; on the east Jámbua in Central India; on the south Ali Rájpur in Central India; and on the west Báriya in Rewa Kántha. It is a compact circular tract about 22 miles in diameter, with Dohad, the chief town, nearly in the centre. Its area is 337 square miles, its population in 1872, 63,513 souls, and its land revenue in 1878, £7066 (Rs. 70,660).

Area.

Of its 339 square miles, 113 are occupied by alienated and *tálukdári* villages. The rest according to the revenue survey returns contains 144,452 acres; of these 130,860 acres or 90·59 per cent including alienated lands in Government villages and lands under the forest department of which details are not available were arable and 13,592 acres or 9·40 per cent were unarable occupied by ponds, river-beds, and village sites.

Aspect.

Unlike other parts of the Panch Mahás, Dohad is pleasantly varied with hills, rich valleys, and waving sparsely-wooded plains, rising into high peaks crested with snow-white quartz. The land has a long-settled look. The brick and mortar houses of the richer classes are grouped in villages, but by far the greater number have their wattle and daub homesteads dotted over the village lands or clustered round the village pond. On the whole there is no prettier or naturally richer country in Gujarát. Though hilly throughout, there are no specially marked peaks or ridges. The water-shed of the district is a tableland from four to six miles broad, the extension of the A'rávali range from Rajputána southwards, between Dohad and Báriya. The rise of the land from Godhra though gradual is well marked.

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The climate is cooler than in the western division, less oppressive during the hot weather, and with occasional frosts in the cold. The average rainfall in the twelve years ending 1877 was 28·75 inches.

Water.

The main river, the Anás flows throughout the year along the eastern boundary. Many of its tributaries, of which the chief are the Kasba, the Khári, the Káli, the Gangri, the Káveri and the Barod, wandering across it, and generally flowing throughout the year, water the whole of Dohad. The country is specially suited for storing water, and has some very large reservoirs holding water throughout the year.

Soil.

Reddish in trap and light fawn-coloured in quartz uplands, the soil in the lower levels is black.

Rent Roll.

As Dohad has not yet been surveyed it is without the usual assessment and occupancy details.

Stock, 1876-77.

The 1872 population 63,513 souls, lodged in 13,936 houses, were, in 1877, provided with 598 wells and 15 ponds, and owned 10,009 ploughs, 1839 carts, 22,151 oxen, 21,543 cows, 10,437 buffaloes, 868 horses, 11,787 sheep and goats, 421 asses, and 14 camels.

Produce, 1877-78.

In 1877-78 of 38,836 acres, the total area of cultivated land, 8583 or 22·10 per cent were fallow or under grass. Of the 30,253 acres under actual cultivation, grain crops occupied 18,833 acres, or 62·25 per cent, 14,043 acres of them under maize, *makái*, Zea mays; 2429 under rice, *dángar*, Oryza sativa; 878 under *kodra*, Paspalum scrobiculatum; 239 under *rági*, Eleusine corocana; 225 under wheat, *ghau*, Triticum æstivum; 145 under *juvár*, Sorghum vulgare; 13 under *bájri*, Penicillaria spicata; 88 under barley, *jav*, Hordeum hexastichon; and 773 under miscellaneous grains. Pulses occupied 8574 acres, or 28·34 per cent, 6400 acres of them under gram, *chana*, Cicer arietinum; 1307 under *adad*, Phaseolus mungo; 355 under *tuver*, Cajanus indicus; 298 under peas, *vatána*, Pisum sativum; 182 under *mag*, Phaseolus radiatus; and 32 under miscellaneous crops. Oil seeds occupied 2391 acres, or 7·90 per cent, 2249 of them under *tal*, Sesamum indicum; and 142 under other oil seeds. Fibres occupied 386 acres, or 1·27 per cent, all under Bombay hemp, *san*, Crotalaria juncea. Miscellaneous crops occupied 69 acres, or 0·22 per cent, 3 of them under sugarcane, *serdi*, Saccharum officinarum; 1 under tobacco, *tambáku*, Nicotiana tabacum; 4 under opium, and 61 under miscellaneous vegetables and fruits.

People, 1872.

The 1872 census returns show of a total population of 63,513 souls, 59,264 or 93·31 per cent, Hindus; 4226 or 6·65 per cent Musalmáns; 2 Pársis; and 21 Christians. Statistics specially prepared from the enumerators' forms give the following caste details: 819 Bráhmans; 5 Brahma-Kshatris, writers; 827 Vániás, 1326 Shrávaks, and 22 Bhátiás, traders and merchants; 25 Kanbis, 1317 Rajputs, 3 Káchhiás, 219 Mális, 771 Rávals, 1551 Labánás and 11,580 Kolis, cultivators; 197 Sonis, gold and silver smiths; 3 Kansárás, brass and copper smiths; 141 Suthárs, carpenters; 534 Luhárs, blacksmiths; 95 Kadiás, bricklayers; 223 Darjis, tailors;

DOHAD.

22 Chippás, calenders; 43 Bháts and Charáns, bards and genealogists; 424 Kumbhárs, potters; 334 Hajáms, barbers; 89 Dhobhis, washermen; 772 Bharváds and Rabáris, herdsmen and shepherds; 7 Golás, ricepounders; 25 Bhádbhunjás, grainparchers; 42 Bhois, labourers and cultivators; 305 Márvádis, labourers; 145 Purabiás and Maráthás, servants; 103 Vanjárás, carriers; 94 Kaláls, liquor sellers; 233 Rávaliás, beggars and labourers; 144 Kámaliás, blanket-weavers, 34,735 Bhils and 16 Náikdás, unsettled cultivators; 108 Mochis, shoemakers; 701 Chámadiás, tanners, 592 Dheds, 50 Garudás, and 341 Bhangiás, depressed classes; and 274 religious beggars. As regards occupation the same return arranges the whole population under the seven following heads: i. Employed under Government or municipal or other local authorities, 766. ii. Professional persons, 120. iii. In service or performing personal offices, 458. iv. Engaged in agriculture and with animals, (*a*) cultivators 13,511, (*b*) labourers 596, total 14,107. v. Engaged in commerce and trade, 642. vi. Employed in mechanical arts, manufactures and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 3136. vii. Miscellaneous persons not classed otherwise, (*a*) women 17,500, and children 26,337, in all 43,837, and (*b*) miscellaneous persons 447, total 44,284.

JHA'LOD.

Jhálod Petty Division. The petty division of Jhálod under Dohad is bounded on the north by the Chelkari state, and on the east by the Kushalgad state, both in Central India; on the south by Dohad, and on the west by Báriya and Sunth in the Rewa Kántha. The Anás river runs along its entire eastern face. Its area is 267 square miles and its population in 1872, 36,785 souls or 138 to the square mile, and its realizable land revenue in 1878, £3870 (Rs. 38,700).

Area.

As the Jhálod survey is not finished, area and tillage details cannot be given.

Aspect.

Except that there are wider stretches of black soil, Jhálod is much like Dohad.

Climate.

As in Dohad the climate is better than in the western division. The average rainfall is returned at about 28 inches.

Water.

The Makan and Káli rivers on their way to the Anás cross the district from north to south. Water is in most places close to the surface and large areas are watered by lever-lifts, *dhekudis*, from unbuilt wells.

Soil.

The light, *gorádu*, soil is like that of Dohad. There is much fine alluvium in the Makan valley especially about Limbdi. The black soil is a rich deposit of decayed vegetable mould. Most lands in the sub-division can yield two harvests, an early *kharif* crop of maize, and a late *rabi* crop of wheat or grain.

Rent Roll.

As Jhálod has not yet been surveyed there are no assessment or occupancy details.

Stock, 1876-77.

The 1872 population 36,785 souls, lodged in 8634 houses, were, in 1877, provided with 381 wells and 43 ponds, and owned 6395 ploughs, 879 carts, 13,471 oxen, 12,279 cows, 6706 buffaloes, 563 horses, 4580 sheep and goats, and 442 asses.

Chapter XIII. Sub-divisions. JHA'LOD.

Produce, 1877-78.

In 1877-78 of 23,259 acres, the total area of cultivated land, 4940 or 21·23 per cent were fallow or under grass. Of the 18,319 acres under actual cultivation, grain crops occupied 11,993 acres, or 65·46 per cent, 8591 acres of them under maize, *makái*, Zea mays; 1716 under rice, *dángar*, Oryza sativa; 564 under *kodra*, Paspalum scrobiculatum; 189 under wheat, *ghau*, Triticum æstivum; 31 under *juvár*, Sorghum vulgare; 134 under *rági*, Eleusine corocana; 25 under barley, *jav*, Hordeum hexastichon; 15 under *bájri*, Penicillaria spicata; and 728 under miscellaneous grains. Pulses occupied 5410 acres, or 29·53 per cent, 4784 acres of them under gram, *chana*, Cicer arietinum; 571 under *adad*, Phaseolus mungo; 23 under *mag*, Phaseolus radiatus; 17 under *tuver*, Cajanus indicus; and 15 under miscellaneous pulses. Oil seeds occupied 360 acres, or 1·96 per cent, all under *tál*, Sesamum indicum. Fibres occupied 337 acres, or 1·84 per cent, all under Bombay hemp, *san*, Crotalaria juncea. Miscellaneous crops occupied 219 acres, or 1·19 per cent, 10 of them under sugarcane, *serdi*, Saccharum officinarum; 7 under tobacco, *tambáku*, Nicotiana tabacum; and 202 under miscellaneous vegetables and fruits.

People, 1872.

The 1872 census returns show of a total population of 36,785 souls, 35,674 or 96·98 per cent, Hindus; and 1111 or 3·02 per cent, Musalmáns. Statistics specially prepared from the enumerators' forms give the following caste details: 429 Bráhmans; 7 Brahma-Kshatris and Parbhus, writers; 518 Vániás and 505 Shrávaks, traders and merchants; 542 Kanbis, 353 Rajputs, 705 Mális, 293 Labánás, 253 Rávals and 286 Kolis, cultivators; 106 Sonis, gold and silver smiths; 90 Suthárs, carpenters; 182 Luhárs, blacksmiths; 11 Kadiás, bricklayers; 19 Darjis, tailors; 72 Ghánchis, oil-pressers; 19 Bháts and Chárans, bards and genealogists; 343 Kumbhárs, potters; 177 Hajáms, barbers; 39 Dhobhis, washermen; 216 Bharváds and Rabáris, herdsmen and shepherds; 2 Bhádbhunjás, grainparchers; 31 Maráthás, servants; 72 Vanjárás, carriers; 26 Kaláls, liquor sellers; 39 Lakhárás, makers of lac bangles; 29,336 Bhils, unsettled cultivators; 50 Kámaliás, blanket-weavers; 122 Mochis, shoemakers; 289 Chámadiás, tanners, 36 Dheds, 54 Garudás, and 216 Bhangiás, depressed classes; and 166 religious beggars. As regards occupation the same return arranges the whole population under the seven following heads: i. Employed under Government or municipal or other local authorites, 515. ii. Professional persons, 126. iii. In service or performing personal offices, 134. iv. Engaged in agriculture and with animals, (*a*) cultivators 8981, (*b*) labourers 31, total 9012. v. Engaged in commerce and trade, 398. vi. Employed in mechanical arts, manufactures and engineering operations, and engaged in the sale of articles manufactured or otherwise prepared for consumption, 844. vii. Miscellaneous persons not classed otherwise, (*a*) women 10,657, and children 14,825, in all 25,482; and (*b*) miscellaneous persons 274; total 25,756.

CHAPTER XIV.

PLACES OF INTEREST.

Bha'vka. About five miles south-west of Dohad, at the village of Bhávka is a ruined temple of Mahádev, apparently of considerable age. It seems to have originally been an octagon, each side of eight feet with single-stone lintels supported on octagonal pillars, five feet round at the base and four below the capital. At the entrance of the shrine is a figure of Ganpati holding in his hands what seems to be a battle axe. On the outside are the remains of three belts of sculpture, the highest rude and somewhat indecent figures, the second elephants, and the third groups of very small figures of men and beasts. According to a local story this temple was built by courtezans at the time (746-1483) of the prosperity of Hindu Chámpáner.

BHA'VKA.

Bhimkund. About five miles south of Dohad near where the village lands of Vijápur, Brahmakhed, and Rámdungra meet, is a large earthen basin formed by a waterfall about seventy feet high. Here four days before *Holi* (April) thousands of Bhils come, some of them from considerable distances. Those who have during the year lost friends, relations, or parents bring their ashes with them and throw them into the pool. Then they wash and going to Bráhmans, always there in great numbers, have a red spot, *chándla,* marked on the brow and in return give some small present in money or grain. Then drinking begins and, if money lasts so long, is kept up for about a fortnight.

BHIMKUND.

Chakki-no-a'ro. In the Karad river between the villages of Medápur and Marva in Hálol is the *Chakki-no-áro* or Grindstone bank, one of the most singular spots in the district. In the middle of the river where the channel is deepest is a large rock over which, in ordinary course, the stream would flow and fall in a cascade into the deep pool below. But above the rock a rectangular reservoir, *kund,* has been built about fifteen feet square, and four to five feet deep, partly of brick and partly of rock, the large rock forming its lowest side. Into this pool the water of the river runs, and passes out of it, not over the large rock, but by a six or eight feet long channel cut from the deepest part of the reservoir right through the centre of the rock. Out of this, from the centre of the rock, the water spouts and falls into a deep pool several feet below. The place is sacred, and at eclipses of the sun and at the *Mahoda Parv* on *Somvati Amás,* when the last day of the month falls on a Monday, and on other occasions is visited by Bráhmans, Kshatris, and Vániás, who bathe and wash away their sins in the pool. The legend is that a certain Rája Sulochan of Benares was troubled with

CHAKKI-NO-A'RO.

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a growth of hair on the palms of his hands, sent him as a punishment for his sins. As none of the Benares seers could cure him he was advised to go to the famous Vishvámitra, who lived where Pávágad now stands. Vishvámitra told him that if he sacrificed at a spot in the river where a sacred grindstone lay, his sins should be destroyed as grain is ground to powder in a grindstone. The Rája went to the spot, built a place of sacrifice, and in a great rock cut a conduit through which to feed with butter the fire of his sacrifice. Thus was he freed from his sins and from the hair growth. The river became known as the Hand or *Kar*, since corrupted into Karad Ganga, and the place of sacrifice as the *Chakki-no-áro* or Grindstone bank. Half the grindstone is still there, the other half was stolen by a Gosái, who, pursued, was forced to throw away the grindstone where it still lies between the villages of Viasra and Aláli in Kálol.

In the bank of the Karad opposite to, but it is said in no way connected with the Grindstone shore, is an opening in the rock three to four feet high. This is said to be one end of the underground passage whose other end is at the Máchi Haveli half way up Pávágad. Major Fulljames from the Pávágad end and Mr. Acworth from the Medápur end have both passed some little way up it. But even among the natives of the place there would seem to be no known case of any one passing through or even going any considerable distance along this tunnel.[1]

CHA'MPA'NER.

Cha'mpa'ner, north latitude 22° 30′ and east longitude 73° 30′, lies nearly a mile to the north-east of the main body of Pávágad hill, about twenty-five miles east of Baroda and forty-two south of Godhra. Though at present (1878), except for a few Bhil and Náikda squatters, almost entirely deserted, Chámpáner is a place of much historic interest and has many remains of its former greatness.

History.

The name is said to come from Chámpa, according to one account a Vánia, and according to another a Kanbi, who founded the city during the reign of Van Ráj of Anhilváda (746-806).[2] In the eleventh century Rám Gaur the Tuár is styled Pává's lord.[3] But he seems to have held under the Anhilváda kings for, at least till the eleventh century, and probably until in 1297 their power was crushed by Alá-ud-din Khilji, Chámpáner continued one of their chief eastern strongholds.[4] About the same time as the fall of Anhilváda, Chohán Rajputs flying before Alá-ud-din Khilji settled at Chámpáner. This family, though since 1484 deprived of its chief seat, is still represented by the rulers of the Chhota Udepur and Devgad Báriya states. The names of the Chohán chiefs of Chámpáner, recorded in an inscription found at Náháni Umarván near Hálol, are Rája Shri Rámadev, Shri Chángdev, Shri Cháchingdev, Shri Sonámdev, Shri Pálhansingh, Shri Jitkaran,

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[1] Contributed by Mr. H. Acworth, C.S.

[2] Chámpa is also called a Bhil: As. Res. IV. 187. He may have got this name from settling in the Bhil country.

[3] Rás Mála, 72.

[4] Rás Mála, 137.

Shri Kempu Rával, Shri Viradhával, Shri Savaráj, Shri Rághavdev, Shri Trimbak Bhup, Shri Ganga Rájeshvar, and Shri Jayasingh Dev. Rajput Chámpáner would seem to have lain at the foot of the north-east slopes of the hill just under the fortress of Pávágad. Though besieged and made to pay tribute[1] in 1418 (821-822 H.), and again more hardly pressed about 1450 (853-854 H.), the strength of their hill enabled the Chámpáner chiefs to maintain their independence, fighting freely at times with their neighbour and rival the Ráo of Idar. In 1483 (887 H.) during a season of scarcity Malik Asad, one of Sultán Mahmud Begadá's captains (1452-1511), raiding in Chámpáner territory was attacked, defeated, and slain by Rával Jayasingh. In revenge Mahmud sent an army to Baroda, and refusing all means of settlement except 'the sword and the dagger,' attacked Chámpáner. The siege had lasted about a year when the Rával again made overtures of peace offering to pay 360 pounds of gold. This the Sultán refused, declaring that he would not leave till the fort was taken. Jayasingh now applied for help to Ghiyás-ud-din of Málwa. But Mahmud advanced to Dohad and, without striking a blow, the Málwa king retired. On his return to Chámpáner, to show the besieged that he would not leave till the fort was taken, Mahmud laid the foundations of a beautiful mosque. Meanwhile the besiegers gradually pushing on their outworks took the fort in 1484. The wounded Rával falling into the Sultán's hands was at first well treated, but after six months, refusing to embrace Islám, he was put to death. One of his sons, brought up as a Musalmán, was in the next reign ennobled under the title of Nizám-ul-mulk. On the fall of the fort Mahmud changed the name of the city to Mahmudabad Chámpáner. Pleased with the climate he made it his capital, building a fort, a mosque, and a palace and bringing nobles and ministers to settle. Many great buildings were raised, and gardens laid out and, by the skill of a native of Khorásán, well fitted with fountains and waterfalls.[2] Its fruits, especially its mangoes, were famous, and its sandal trees grew so freely that their timber was used in house building. Merchants and craftsmen thronged its streets, Chámpáner swordblades became noted for their sharpness, and Chámpáner silks for their bright colours.[3] Though he by no means deserted Ahmedabad, Mahmud continued to the close of his reign (1511) to consider Mahmudabad Chámpáner his capital. Mahmud's successors following his example, Chámpáner remained till the death of Bahádur Sháh (1536) the political capital of Gujarát. During this time the close connection between Málwa and Gujarát favoured the city's growth and the safety with which their treasures could be stored in its hill fort gave it a special value in the Sultáns' eyes. Though, even at its best (1514) a place neither of so great trade nor so large as Ahmedabad, like it Chámpáner was 'embellished with good streets and squares and houses of stone and

[1] Rás Mála, 268.

[2] This Khorásáni is said to have introduced into Gujarát the knowledge of fountains and artificial waterfalls. The best garden was at Hálol, planned by a Chámpáner carpenter who, by working under him disguised as a labourer, had learned the secret of the stranger's art. Ind. Ant. LXII. 5.

[3] Chámpáner had a great export of silk and was the only place where raw silk could be washed and prepared. Rev. Com. 1057, 7th May 1838.

Chapter XIV. Places of Interest. CHA'MPA'NER. *History.*

whitewash. The country round was very fertile, full of abundant provisions, wheat, barley, millet, rice, peas and other vegetables, and many cows, sheep, goats and plenty of fruit. Near it were hunting grounds for deer and other animals and winged game. The king kept many wild animals, and trained hunting dogs, falcons and tame leopards.'[1]

In 1526 at Chámpáner the young Sultán Sikandar Sháh was murdered and his successor Bahádur Sháh crowned.[2] Continuing through his reign (1526-1536) to be Bahádur's capital and head-quarters, the city was, in 1535, pillaged by the Emperor Humáyun. Bahádur's death in the next year and the transfer of the court and capital to Ahmedabad prevented Chámpáner regaining its former position. Off the main lines of traffic, the loss of Gujarát ascendancy over Málwa, took away from Chámpáner its chief claim to importance. Its fall was rapid. In 1554 its only points of interest were fine banian trees, large fruit-eating bats and thorny brushwood.[3] Like the rest of Gujarát it suffered during the disorders of the next twenty years (1554-1574). But unlike Ahmedabad and Surat the establishment of order under the Emperor Akbar (1573-1605) brought Chámpáner no return of prosperity. At the beginning of the seventeenth century 'its air was weakening, its water poisonous, and its orchards and gardens the lair of the tiger and lion. Its buildings had fallen in ruins, and its people had given their goods to the winds of destruction. Instead of flowers were thorns, and instead of gardens close-knotted brushwood, and of its sandal groves neither the name nor the trace was left. It showed the truth of the verse, 'All on earth fades and God does as he wills'.'[4] Though desolate, Chámpáner continued in name the head of a district of nine sub-divisions, part at least settled and rich enough to be included in Rája Todar Mal's survey (1576).[5] Under the Moghals Chámpáner was subordinate to Godhra, tillage declined and by the middle of the seventeenth century so much of the country had

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[1] Stanley's Barbosa, 58.

[2] Sikandar Sháh, murdered by Imád-ul-mulk, was buried at Hálol. Bird's Gujarát, 231. Bahádur already crowned at Ahmedabad according to the Mirat-i-Ahmadi (Bird, 233), and at Pátan according to Ferishta (Briggs, IV. 133), was again crowned at Chámpáner "because for several reigns it had been considered the capital." Ferishta, IV. 106.

[3] Sidhi Ali bin Husein. Bom. Lit. Soc. Trans. II. 8 (Reprint, 1877).

[4] Mirat-i-Sikandari (1611) in Ind. Ant. LXIII. 7. Abul Fázal, writing about the same time (1586), though he speaks of Chámpáner only as a fort on a high hill, notices its very fine fruits. Gladwin Ain-i-Akbari, II. 65. It was also famous for wood of aloes, *ud* or *agar*. Blochmann's Ain-i-Akbari, I. 80.

[5] Under the later Ahmedabad kings Chámpáner had been the head-quarters of seven sub-divisions: Chámpáner, Savli, Dáhvad, Hálol, Taimurabasnáh, Rájod and Jhálod with in all 423 villages yielding a yearly revenue of £70,000 (Rs. 7,00,000). Bird's Mirat-i-Ahmadi, 121. Abul Fázal (1586) describes the Chámpáner district as containing nine sub-divisions measuring 800,337 *bighás* yielding a revenue of Rs. 2,52,747 (10,109,384 *dáms*) and furnishing a force of 550 cavalry and 1600 infantry. The names of the sub-divisions were, Aravereh Chámpáner, Chundvareh, Chaurási, Dhond, Dhaul, Dilawereh, Sovukhereh, and Sanvis. In the beginning of the eighteenth century Chámpáner was (see p. 252) the head of 13 districts. But its commandant, *killedár*, was under the governor, *faujdár*, of Godhra: Mirat-i-Ahmadi, Ind. Ant. LXIII. 7.

lapsed into forest, that it had become a hunting ground for wild elephants.[1]

In 1803 when the town was taken by the British, only 500 inhabitants were found in it. But the regular population was larger, for most had heard of the approach of the troops and fled. At that time about half of the walled enclosure or citadel was occupied by a settlement of silk and brocade weavers.[2] A few years later (1812) there were about 400 houses, half of them inhabited, the people chiefly runaways from other Gujarát cities.[3] In 1829 silk weavers were still settled at Chámpáner but their number had lately been terribly thinned by cholera.[4] When (1853, July 31st) it came under British management the place was almost deserted. A sum of £126 (Rs. 1260) was spent in an attempt to bring cultivators to settle and clear the forest. But the colony failed. Three-fourths died and the rest fled. Since then but little progress has been made. Except the constables of the police post, its only inhabitants are a few families of poor and sickly Kolis and Náikdás.

Remains.

Coming[5] from Godhra the first sign of Chámpáner's former greatness is, at Hálol, Sikandar Sháh's (1536) tomb, a rather plain one-storied sandstone building in the Muhammadan or arched style. On the Jámbughoda road, about two and a half miles beyond Hálol, stands a small brightly-plastered tomb, the shrine of Khon Pir, a saint revered by the Táis or Musalmán weavers. A few hundred yards to the north-east of Khon Pir's tomb rises from the brushwood a minaret known as the *Ek Minárka Masjid*, The One Minaret Mosque, and half a mile to the south close to Pávágad another small mosque called from a group of trees the *Pánch Mahudáka Masjid*, The Five *Mahuda* Trees Mosque. About three quarters of a mile beyond Khon Pir's tomb a bare lonely stone arch, once the west gate of Chámpáner, comes in view. To the right before passing through the arch is a square pond, once surrounded by masonry steps, and filled from the hill above by a massive stone drain of which there are still traces. The pond is commonly known as the *Kasbin taláv* or Courtezan's pond. But the real builder was Sakar Khán, a Pathán of Chámpáner, whose stone tomb, with finely cut windows and handsome dome, stands at one corner. At the ruined gateway the line of the old wall can be traced about 330 yards south to the foot of the north Pávágad spur; then turning west at right angles it crosses the mouth of a ravine to a ridge to the west up whose steep face it runs, till it reaches the scarp on the top of which stand the Julan Budan gate and wall. North of the ruined gateway the wall runs to the crest of a

[1] In 1645, 73 elephants were caught in the Dohad and Chámpáner forests. Watson, 74.
[2] Hamilton's Hindustán, I. 681.
[3] Bom. Lit. Soc. Trans. I. 151.
[4] Rev. Com. 1057, 7th May 1838. Bom. Gov. Rev. Rec. 180 of 1847.
[5] Details are, as far as possible, limited to remains on the Chámpáner plain, those on the hill have already been described (p. 189). As is the case with the account of the Pávágad remains, almost all the materials for this section have been suplied by Mr. H. A. Acworth, C.S.

Chapter XIV. Places of Interest.

CHA'MPA'NER. *Remains.*

detached ridge of hills on whose eastern slope stood the palace of a brother-in-law of one of the Pátái Rávals.[1] From the crest of this ridge the wall turns sharply back to the south-west and then stretches east.

Passing through the west gateway the road for about a mile crosses an open plain once covered with the buildings of Chámpáner. To the north the line of wall, after coming back from the crest of the ridge, runs parallel to and close by the road. At first brick and cement, the old wall is soon replaced by a massive line of free stone that, after running east for about a mile, is crossed by a second line of old wall that stretches south 220 yards to Pávágad.[2] At the foot of the spur it crosses a stream, then turns west, and in a bending line runs along the spur, gradually rising till it meets the first, or *atak*, line of the hill fortification.

The massive line of free stone is Mahmud Begada's wall, the *Jahánpanáh* or world shelter, surrounding the citadel or *Bhadar*[3] of Mahmudabad Chámpáner. Enclosing an area about three-quarters of a mile long and 280 yards broad, this wall, of great strength, and about thirty feet high, has at regular intervals bastions running north and east at right angles. Though much overgrown with creepers and clinging trees, the wall is in almost perfect repair. A few hundred yards from its western corner is the south or south-west gateway. At the entrance, the line of wall falls back about 120 feet, and the road into the citadel lies between the two lines of wall through a rectangular building, probably a guard room, about 150 feet long and 120 wide, with double gates, and in the south wall richly carved stone windows. On the inner gate is a Persian inscription of which the first figure of a date and the words Muzaffar Sháh,[4] son of Mahmud Sháh, can still be read. Inside of the citadel a little west of the gateway is the *Shehrka Masjid* or City Mosque, a beautiful building in fair repair. About 200 yards east and near the centre of the citadel is the Mándvi or custom house. This probably used as a guard room, is highly finished, very simple, and well proportioned. 'Nearly square, it is open at two ends, each open face having six bays and the two ends joined by five rows of arches, the whole forming a colonnaded chamber of five nearly equal aisles. The roof is flat and massive and though without ornament, is much relieved on the inside.'[5] From the Mándvi to the citadel's east gate stretches modern Chámpáner, a single street of mean huts. The east gate, built on the same plan as the south gate, equally massive, has the same inscription and the same guard room, only less ruined. About fifty yards east of the gate is the *Jáma Masjid*, or Public Mosque, for massive grandeur and perfect finish inferior to no Musalmán

1 Pátái Rával is probably a general name contracted from *Pávápati*, that is Pává-ruling. Ind. Ant. LXIII. 2.

2 The east and west walls were probably built by the Rajputs and repaired by Musalmán engineers.

3 *Bhadar* or propitious, called after Bhadra Káli. Both the Chámpáner and Ahmedabad citadels were Bhadars, taking their name from the original Bhadar in Pátan. Major J. W. Watson, 13th February 1879.

4 Reigned from 1513-1526.

5 Mr. Nairne, 394, 28th February 1879.

building in Western India.[1] Within the mosque were three oblong mural tablets, one over the pulpit and one on either side. The side tablets remain each engraved with a verse from the Korán. But the central slab once adorned with the date-line 'Prayers and a Pulpit,' is gone.[2] The top of one of the two chief minarets has been shattered by a cannon shot wantonly fired at it by the tyrant Pátankar, Sindiá's Governor in 1812 ? About a third of a mile north of the citadel is another fine mosque, the *Nagina Masjid* or Jewel Mosque, built of very pure white stone. Close to it is a large brick well, spanned by a stone arch, nearly surrounded by a wall and with stone conduits and other water-works. In front of the mosque is a colonnaded building like the Mándvi but smaller. West of the *Nagina Masjid,* between it and the hill the minarets of a mosque stand out from the trees. This is called after Báva Mán, a very popular saint in Baroda and a follower of Sadan Sháh whose shrine stands on the roof of Maha Káli's temple on Pávágad top. Through the forest east of the citadel, runs the *Shikári Kot* or Hunter's Fort, a low ruined wall enclosing the remains of many hundred houses. About a mile and a half east of the citadel, on the bank of the Great Lake or *Bada Taláv,* stand the ruins of the Sultán's palace and of a mosque. South of the road near the foot of the hill the shattered foundations of houses and a few Jain temples show the site of Rajput Chámpáner, which besides covering the plain between the Musalmán citadel and the hill foot, ran up the side of the spur to the line of the first or outer fort wall. Besides these remains of the city proper the forest is for miles round strewn with massive wells, minarets, mouldering tombs, and solitary arches, all that is left of the suburbs, gardens, and palaces, that adorned the city of Mahmud Begada.[3]

DESAR.

Desar. At Desar near Sonipur in Hálol, is an old stone temple of Mahádev. Though only twenty feet square and not more than twenty feet high, it is a most striking building: its sides richly carved from base to roof with the beautifully broken outline of the old Gujarát Bráhmanic and Jain buildings. Near the foot runs an elephant scroll, above the elephants two scrolls of human figures, the lower very small the upper somewhat larger, then two belts of

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[1] Its outer outline is more effective than that of any of the Ahmedabad mosques. It is surrounded by a high stone wall with handsome buttressed corners each rising into a short minaret. On the outside the line of the wall is, on the sides, broken by rich windows with overhanging pillaried balconies. Along the back it is broken by a row of sixteen unarched windows, filled with finely cut stone tracery, and between each pair of windows a rounded tower or dwarf minaret, whose pinnacle ends a little below the upper edge of the wall. In front, on each side of the gateway, stands a finely proportioned minaret, and behind the minarets the centre of the mosque rises double-storied and domed, built entirely in the deep-eaved flat Hindu style.

[2] Briggs' Ferishta IV. 70. The words خطبه و منبر give the date 914 H. 1508.

[3] The most noticeable of these remains are at Jepura, about two miles north by east of Chámpáner a ruined mosque on the bank of a small pond; at Ránipura, east of Chámpáner a fine old step well with solid masonry arches; at Chaturdi Váv south of Ránipura another fine step well probably Hindu repaired by Musalmáns. Though imbedded in forest the water of both these wells is clear and sweet. In the south-east, a short way up the hillside near where the east city wall joins the hill fortifications, is a ruined mosque probably once used by the garrison.

Chapter XIV. Places of Interest.

stone tracery above that, its chief feature a scroll of human figures nearly life size, well carved and life-like, and over all a rich deep-cut cornice partly in ruins. Its probable date is somewhat late in the time of Hindu Chámpáner (1300-1484). But it contains no inscription and has not yet been critically examined.

Dev Keda'r.

Dev Keda'r. Near the village of Chosála, about seven miles north of Dohad, a stream runs into a cave. In this spot an image of Mahádev under the name of Kedáreshvar has been set up. Many Bhils visit the shrine, especially on *Phágan Sud 11th* (March).

In the villages of Navágám, about seven miles north-east, Gángadia, eleven miles south, and Nelsu, about nine miles south-west of Dohad, every year on the day after *Holi* (April) a ceremony called the *chul* or hearth takes place. In a trench seven feet by three and about three feet deep, *kher*, Mimosa catechu, logs are carefully and closely packed till they stand in a heap about two feet above ground. The pile is then set on fire and allowed to burn to the level of the ground. The village Bhangia or sweeper breaks a cocoanut, kills a couple of fowls, and sprinkles a little liquor near the pile. Then, after washing their feet, the sweeper and the village headman walk barefoot hurriedly across the fire. After this strangers come to fulfil vows, and giving one anna and a half cocoanut to the sweeper, and the other half cocoanut to the headman, wash their feet and turning to the left walk over the pile. The fire seems to cause none of them any pain.

Dohad.

Dohad or **Dwahad**,[1] a town in 1872 of 11,472 inhabitants, stands in north latitude 22° 50′ and east longitude 70° 18′ on the border, *dohad*, of Gujarát and Málwa, about forty-three miles east of Godhra. The town lies in a slight hollow girt by ridges of low hills at the entrance to the chief pass between Gujarát and Málwa. Of 11,472, the population in 1872, 7572 or 66 per cent were Hindus, 3877 or 33·79 per cent Musalmáns, twenty-one Christians, and two others. A large section of the people, especially the community of Dáudi or Shia Bohorás, are prosperous traders, living in well built brick houses. The chief town of a large sub-division and for long a place of importance, Dohad has a considerable population of craftsmen, and supplies a wide tract of country with earthen and brass ware, and to some extent with cloth. The only special local manufactures are those of blackwood, hair-combs, and lac bracelets. On the high road between Málwa and Gujarát it has always been, and though somewhat injured by the opening (1875) of the Ratlám and Indor railway, is still a place of considerable trade. Its exports are of vegetables, gram, wheat, maize, rice, and castor-oil to Málwa, and gram, wheat, maize, and sweet-oil to Gujarát, and of animal products, clarified butter, to Málwa and Gujarát, lac to Ahmedabad and Ratlám, and hides and horns to Bombay. Its imports are of minerals, iron and copper from Bombay, and salt from Khárághoda on the Ran of Cutch; of vegetables, cocoanuts and spices from Bombay, tobacco from

[1] Most of the materials for the Dohad town have been supplied by Mr. K. S. Nariman, Civil Surgeon of Dohad.

Nadiád, sugar and molasses from Bombay, grain from Benares by Indor, and from Rájgad near Bhopávar. Of manufactured articles European jaconets, madarpalams, mullmulls, chintzes, and *dhotars* come from Bombay by Páli; from Ahmedabad and Kaira come *chhidris* or fine *sállás*, *doriás* for petticoats, *dhotars* for waist-cloths, and sacking, *khárki* or dangri, for the use of Bhils; from Indor and Burhánpur, turbans and head cloths; from Partábgad, black and indigo robes or *sállás;* and from Ratlám *chhidris* and *khárvás* for robes and *doriás* for petticoats, *susi* for the higher classes and *nádra* for the Bhils. During the last two years the exhaustion of grain stocks, from export to the Deccan and the failure of crops in Gujarát, have given rise to large imports of maize, millet, and wheat from Dhár, Indor, Ujain, Ratlám, and other Central Indian grain marts.

History.

Dohad is an old town. In early times Dadhichi Rishi is said to have lived there and in his honour the river was called Dadhimati, a temple on its banks was dedicated to Dudheshvar Mahádev, and the town named Dudhipurnagar. It is said to have been a settlement of Báhria Rajputs. Seven or eight families of this tribe still live in Dohad, and, as the remnants of the first settlers, perform ceremonies and offer sacrifices to propitiate the gods when the town is attacked with epidemic disease. It remained under a line of Rajput chiefs till in the beginning of the fifteenth century (1419) Sultán Ahmad I. (1411-1443) defeated Dongar Rája, destroyed his palace, and in its place raised a citadel.[1] With the rest of the Panch Maháls, Dohad passed to the Emperor Akbar in the end of the sixteenth century (1573-1583), and about the middle of the eighteenth century fell into Sindiá's hands (1750-1760). Under Sindia Dohad was the seat of a governor, and was in 1785 one of the best towns on the line of march between Gujarát and Málwa, with brick houses and well-to-do inhabitants, especially a number of Bohora Musalmáns.[2] With the rest of the Panch Maháls Dohad passed under British management in 1853.

The town is of two parts, the old town in the west and the new town, most of it built during the last century, close to the old town on the east. Coming from Godhra at the west end of the town are the traces of an old gateway and a line of walls running south to the river and about 500 yards beyond, another line of walls enclosing a square space about 500 yards each way. The only part of the old wall still standing is the eastern or Páni gate. From their foundations the walls seem to have been brick, and to have had four gates, two in the west, and two in the east. The portions of the old town still remaining are the Desáivára, the Khadáetávára, and the Ghánchivára. The places of interest connected with the old town are, on the left of the entrance gate coming from Godhra, a lake known as the *Chhába Taláv* or Basket Pond. This lake said to have been

[1] Major Watson, 35. Bird (124-190) makes Ahmad's fort at Dáhmod and makes Muzaffar (1513-1526) the builder of Dohad fort (222). Of this early fort there would seem now to be no trace.
[2] Forbes' Or. Mem. III. 181.

Chapter XIV. Places of Interest.

DOHAD. *Remains.*

dug by men of the Od caste,[1] about the same time as the Odváda lake near Godhra, about a mile and a half round, is one of the finest pieces of water in the Panch Mahál and is surrounded by a flight of stone steps with strong retaining end walls and a waste water sluice. From the great scarcity of wells in the town, its water is of special value, and is used throughout the year. In the lake are two islands where, towards the close of the eighteenth century, pleasure houses were built by Bápu Sáheb Pátankar, whose son A'pa Sáheb was married to Daulatráv Sindiá's (1794-1820) daughter. According to one account the Panch Mahál were given by Sindia as his daughter's dowry. Bápu Sáheb was made governor and asked to send his son to live at Gwálior. Bápu refused, saying that Sindiá's daughter should come and live with her husband at Dohad. To this Sindia would not agree. A force was sent against Dohad with orders to bring back the young A'pa Sáheb but without harming a hair of his head. Bápu retired to Pávágad, and knowing that the besiegers would not fire at him is said to have set his son in front of the fort. After a time Pátankar surrendered, and with his son was taken to Gwálior. Another account states that the force was sent by Sindia to punish Pátankar who, recalled for oppression, had refused to leave the Panch Máhál. This story states that after his capture on his way to Gwálior, Pátankar committed suicide outside of the south Dohad gate at a spot marked by a banian tree since known as the *Bhutiávad* or ghost's figtree. On the east bank of the Chhába lake a Bohora vegetable garden, known as the Dongarváda or Dongar's garden, marks the site of the old Rajput chief's palace. Another relic of the old Rajput city is in the south the Ghánchiváda Masjid or Oilman's mosque, said to have been built on the site and of the stones of the old chief's zenána. Close to the mosque is a pond, the *Chandan Taláv* or Sandal Lake.

On the south bank of the river, nearly opposite the oilman's mosque and close to a banian tree is a small building with a tomb inside.[2] The story is that on the banks of the Dohad river one of Sháh Jahán's wives was (1619) seized with the pains of childbirth. The court astrologer declared that if the child was born before a certain hour he would bring bad luck, but if after a certain hour he would become a mighty monarch. To avert misfortune the astrologer counselled the Emperor to have the lady hung head down from a branch of the banian tree. The device succeeded but at the cost of the mother's life.

Buildings.

New Dohad though not walled has four gateways, on the west in the line of the old city wall on the way to the lake, the Páni or water gate; to the east a double gateway, the Hanumán gate inside and the Koliváda gate outside; to the south the Dhola gate; and to the south-west facing the Hanumán gate, the Luhárváda gate. The oldest quarter of the new town is on the west, the Gujaráti market built by Nima Vániás, refugees from

[1] The story is that the Ods, under Jasma Odin, were on their way to the court of Sidh Ráj Jai Singh (1094-1146). So great was the army of diggers that, to finish the Chhába lake, each had only once to fill his basket.

[2] This tomb is said to have been (1619) raised over Aurangzeb's after-birth.

Chámpáner in 1779; the next quarter, the four markets that meet at the police guardhouse in the centre of the town, built in 1782; the third, to the north-east, is the Daulatganj market, built in 1805; the fourth, to the north-west, between the lake and the citadel, is the Bohorávāda, built in 1809; and the fifth, built in 1850-1852, is in the south-east, the Ganeshpur market. The chief object of interest in the new town is a caravanserai[1] built in 1619[2] by the Emperor Sháh Jahán in honour of Aurangzeb's birth. It is a square enclosure about 450 feet each way, surrounded by a brick wall sixteen feet seven inches high with bastions at each corner and two grand gateways, one at the middle of the north and the other at the middle of the south wall. The Maráthás added three round towers twenty-four feet high at the south-west corner and at the middle of the west and east walls. At the south-east corner Pátankar built for his son a three-storied house, called the *bárádvári* or twelve gates, now used as quarters for the jailors. Inside, the walls were surrounded by rows of arched rooms opening inwards,[3] and in the centre of the west half of the enclosure was a mosque. This caravanserai is now used for public buildings, the east half as a jail, and of the west, the south corner, where was the residence of Sindiá's governor, as the mámlatdár's office, and the north as mounted police lines. The mosque is used as a magazine for the Bhil corps. To the north of the caravanserai lies the cantonment with police lines and a civil hospital.

The town is supplied with two rest-houses, *dharmsháláš*. One, in the west on the south bank of the lake, able to hold about 200 travellers, was built in 1828 by the governor of the town, Antáji Dámodar; the other, at the south-east corner of the town, with room for about 150 pilgrims, has been built out of local funds by the British Government.

On the south bank of the Dadhimati stream, every year in *Shrávan vad A'tham* (August-September), a fair is held. It lasts from sunrise to sunset, and is generally attended by about 7000 persons. Except toys and sweetmeats, little is bought or sold. Besides being the seat of the chief revenue and police officers of the sub-division, Dohad is the head-quarter station of the Bhil corps and of the assistant superintendent of police, and is provided with a sub-judge's court, a civil hospital, a district jail, a post office, and a vernacular school.

GODHRA.

Godhra, a town in 1872 of 10,635 souls and 3259 houses, the head-quarter station of the Panch Maháls district and of the Godhra sub-division, lies in north latitude 22° 46′ and east longitude 73° 40′, fifty-two miles north-east of Baroda and seventeen miles east of the Páli railway station. Except for a stretch of rice land to the west

[1] Of the fort said to have been built in 1419 by Sultán Ahmad I. (1411-1443) and about 1515 repaired by Sultán Muzaffar (1513-1526), no trace seems to remain. The caravanserai is also called *ghadi* or fortress; but this apparently because Sindiá's governor lived in it.

[2] Elliot's History, VII. 213. Elphinstone 591, note 1, gives October 1618.

[3] The rooms vary in size from 39′ 7″×32′ 8′ ×10′ 6″ to 22′ 7″×10 ′6″ × 10′ 5 ′.

Chapter XIV. Places of Interest.

GODHRA.

Godhra is almost entirely surrounded by brushwood and forest. On a plot of ground slightly raised above the general level of the plain, with no walls or large buildings and much hid by trees, the town attracts little notice. About half a mile to the south is a group of four lately-built district officers' houses. Not more than 900 feet above the sea and surrounded by rice and forest land, the climate of Godhra is especially towards the close of the rainy season feverish and relaxing.

History.

Godhra, or Godrahaka, that is the cow's lake, is a town of considerable antiquity, supposed to be mentioned as 'the camp of victory' in a brass plate grant of the fifth century.[1] Probably because Chámpáner was their chief settlement in this part of Gujarát, Godhra would seem to have been of little consequence under the Rajput dynasties of Anhilváda (746-1298). In the thirteenth century (1225) it is mentioned as subject to the chief of Dholka.[2] To the Musalmán kings of Ahmedabad, before Chámpáner was conquered, Godhra was one of the centres of government in eastern Gujarát. Mahmud Begada, when in 1480 he divided his dominions, chose Godhra as the head-quarters of one[3] of five provinces. Even after (1484) Chámpáner became his capital, Godhra continued the head of a considerable district. At the time of its transfer to the Emperor Akbar (1573) it contained ten sub-divisions with 501 villages, yielding a yearly revenue of £350,000 (7,200,000 *changizis.*)[4] Under the Moghals the lands were surveyed and the number of dependent sub-divisions raised to twelve. In 1724 it was taken by Kantáji Kadam Bánde and probably kept by him till about 1760.[5] Since then Godhra has continued the headquarters of the Panch Mahás, first under Sindia (1770-1853), and then under the British.

Musalmán Riot, 1855.

Since its transfer (1853) the two chief events in the history of the town are a Musalmán riot in 1855 and a fire in 1857. The riot was among Musalmáns, Sunnis against Shiás. The Shiás of the Dáudi Bohora community went on the 26th August to hold a feast at an *idga* or place of prayer outside of the town. The man in charge, a Sunni beggar, objected to their coming and a scuffle took place. Going into the town he complained to the police and an inquiry was made. As the examination was not finished

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1 The name Godraha occurs in Someshvar's Kirti Kaumudi, IV. 57, where it is stated that the lords of Godraha and Láta, the country between the Narbada and Tápti, betrayed their master the chief of Dholka. Godraha can only refer to the present Godhra. The other reference in a grant of Shiláditya V. of Valabhi about 404 is not so certain. Dr. Bühler in Ind. Ant. LXIII. 16, 17.

2 Ind. Ant. LXIII. 16. During this period no other reference to Godhra has been traced either in the Rás Mála or in Tod's Annals of Rájasthán.

3 Briggs' Ferishta, IV. 62. The five divisions were Ahmedabad, Jagat, Godhra, Songad, and Thána.

4 Bird's Gujarát, 124. The ten sub-divisions were at the close of the 16th century Godhra, Sehra, Miral, Samdáh or Nasirabad, Dodáh, Ambábad, Jhálod, Morváh, Kaddhánáh and Dáhmod. Two other Godhra sub-divisions were at that time (1573) in the hands of the Sunth chief and of Chatárál Kuli. According to the Ain-i-Akbari (Gladwin, II. 242) the area was 535,255 *bighás* and the yearly revenue Rs. 85,458 (34,18,324 *dáms*). The names of the sub-divisions differ considerably from those given in the Mirat-i-Ahmadi; they are Audha, Atladera, Bera, Jednagar, Jhálod, Dhamnud, Sehra, Godhra, Kohaneh, Miral, Mehdváda.

5 Malcolm's Central India, I. 78; the date of Sindiá's conquest has not been ascertained.

before nightfall, some Sunni Musalmáns meeting at the Kázi's house determined to take the punishment of the Bohorás into their own hands. Next morning (27th August) gathering in a large crowd they surrounded the entrance to the Bohora quarter, seized two Bohorás, and setting them on asses dragged them through the town. When the police came the Bohora quarter was already broken into and plundered. The rioters were driven back and a guard set over the Bohora quarter. No further acts of violence were committed. But for three days (29th-31st) the houses and shops remained shut, the mob continuing to hold the market place. They then dispersed without doing further mischief. About sixty of the rioters were convicted and sentenced to terms of imprisonment varying from six months to three years and to from £5 to £10 fines.

Fires, 1857.

The fire of 1857 broke out on the 2nd April. A strong wind was blowing from the north and a hut in the north outskirts of the town catching fire, the flames spread rapidly. Except the Government offices and some small outlying parts to the east and west, nearly the whole of Godhra, its well built Bohora, Sáhukár, and Ghánchi quarters with many handsome three-storied houses, was completely burnt down. Very little property was saved and two persons and many cattle were killed.[1] On the 5th March 1873 a serious fire broke out in the densely populated Ghánchi quarter: 188 houses were burnt and property worth £4400 (Rs. 44,000) destroyed.

1873.

People.

Of 10,635, the total 1872 population, 4775 or 44·89 per cent were Hindus; 5854 or 55·04 per cent Muhammadans, and six Others. The two classes of chief local importance are both Musalmáns. The Shia Bohorás are traders and hardware dealers and the Ghánchis are carriers, traders, and husbandmen. The Shia Bohorás are a prosperous well-to-do community. But the Ghánchis though frugal and hard-working have of late years suffered from the break-up of their monopoly of the carrying trade and have some of them fallen into poverty.

Crafts.

Oil-making is carried on to some extent in Godhra. In 1867 a steam mill was started by a company known as the Godhra oil company. It worked for about five months and then closed for want of funds. In 1870 the mill was sold to a Pársi merchant of Bombay, who worked it, with occasional stoppages, till July 1877. Two kinds of seed, *tal*, Sesamum indicum, and *dolia*, Bassia latifolia, were pressed in the mill.

There are also several families of weavers, some of them Dheds who weave coarse sacking, *gani*, cloth; the rest, Khatris and Musalmáns of the Momna class make the finer sorts of different coloured robes. There is also some pottery, brasswork, and wooden bracelet-making, the Godhra market supplying those articles to a considerable area of country. As a place of trade Godhra has of late years risen in importance. The opening of the railway to Páli

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[1] Twenty years before (1837) Godhra was almost entirely destroyed by fire. Sindiás Government gave £3000 (Rs. 30,000) for the sufferers' relief.

GODHRA.

has increased the local exports, and the trade tends more than formerly to centre in Godhra. If, as has been proposed, the railway line is brought on seventeen miles from Páli, Godhra will become a place of consequence, the trade centre for Jhálod and Dohad in the east, Báriya in the south, and Lunáváda and Sunth in the north. Its chief exports are timber, *mahuda* flower, maize, gram, and oil seeds; its chief imports tobacco, molasses, and hardware. As the head-quarters of the district, and the chief town of the sub-division, Godhra has, besides the offices of the Agent to the Governor, his assistant, the district superintendent of police, the forest officer, the mámlatdár and the civil judge or *munsif*, a dispensary, a post office, and three vernacular schools.

The only objects of interest in the town of Godhra are the lake and the fort to the north-east of the town. The lake about seventy acres in extent is embanked, faced with stone, and on the west and south provided with flights of stone steps. The name of the town the 'cow's lake' would seem to show that this reservoir is of great age. The fort is of mud, of little size or strength. At present it contains the offices of the mámlatdár and of the local judge or *munsif*. Every year on *Gokal A'tham* (August-September) a fair is held attended by about 1000 Bhils and Kolis. The gathering lasts only a few hours and is of no trade importance.

HA'LOL.

Ha'lol, in 1872 a town of 3147 inhabitants, the head-quarters of the petty division of the same name, lies on the high road to Jámbughoda, about seven miles south of Kálol and four north-west of Pávágad hill. Besides well-to-do Kanbi cultivators, the largest class in the town, there are Vánia traders carrying on business in grain and forest produce with Jámbughoda, and in hardware, tobacco, and cloth with Godhra and Baroda. At Hálol is said to have been (1484) the most beautiful of all the gardens for which Chámpáner and its suburbs were famous.[1] The chief remains of its former prosperity as a suburb of Chámpáner, are to the north-east of the town, a reservoir of considerable size but without stone steps or other masonry. Within the limits of the present town is a mausoleum described in 1785 as two large and five small domed structures, all of admirable workmanship, the two larger containing marble tombs adorned with excellent skill.[2] Since then some of the domes have fallen, but in other respects the buildings are in good repair. They were raised by Bahádur Sháh (1526-1536) in honour of his brother Sikandar Sháh murdered by Imád-ul-mulk in 1526 (May 30th) after a reign of three months and seventeen days. The mausoleum contains two more tombs, one to Násir Khán, the other to Latif Khán, both of them brothers of Bahádur Sháh who died in the same year (1526). At the time of building the tombs a suitable establishment was endowed to say daily prayers for the princes' souls.[3]

JHA'LOD.

Jha'lod is the chief town of the petty division of the same name, the northern half of the Dohad sub-division. Lying in north

[1] Mirat-i-Sikandari (1611) quoted in Ind. Ant. LXIII. 5.
[2] Forbes' Or. Mem. III. 476.
[3] Ferishta, IV. 108.

latitude 23° 7′ and east longitude 74° 10′, **Jhálod** contains a population of 5170 souls. In 1825 Jhálod is described[1] as but little deserving the name of a city; still it had a market, a mosque, a small temple, and some good solidly built two-story high brick houses. There is a large and handsome pond. The people are chiefly husbandmen, most of them Bhils and Kolis. Except a little pottery and handloom weaving there are almost no manufactures. But there are several families of Vánia traders, and there is a considerable export of wheat and gram, chiefly south to Dohad and south-west to Godhra. JHA'LOD.

Ka'lol is the head-quarter town of the sub-division of the same name. It lies in north latitude 22° 37′ and east longitude 73° 31′, and contains a population of 3993 souls. The centre of the richest cultivation in the Panch Mahás, and with a large proportion of well-to-do Kanbi inhabitants, Kálol is a prosperous town, though its importance has to some extent been affected by the recent change in the course of trade to Páli instead of to Baroda. KA'LOL.

Lila'vati. The three villages, Lilva Pokar, Lilva Deva, and Lilva Thákor in the Jhálod sub-division, are said to stand on the site of an old town, Lilávati by name, where according to the local story, the Pándavs in their wanderings stayed. The place is still marked by several Mahádev temples with spirited and clear cut sculptures. LILA'VATI.

Pa'va'gad. See pages 185-190.

Shera, about twelve miles north of Godhra, is on *Gokal A'tham* (August-September) the scene of a fair in honour of Mahádev. The gathering seldom numbers more than two or three hundred Bhils and Kolis and is of no trade importance. SHERA.

Tuva, about ten miles west of Godhra, is remarkable for its hot springs of which some account has been given in Chapter I. Here on the 11th of *Phágan* (February-March) a few hundred Bhils and Kolis assemble to worship Mahádev. Since the opening of the Páli railway, the number of visitors has much increased. TUVA.

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[1] Heb. Nar. II. 104. [2] Ferishta, IV. 108.

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